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Pragmatism and Theories of Emergence

Guido Baggio and Andrea Parravicini (dir.)



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Guido Baggio and Andrea Parravicini (dir.)

Symposia. Pragmatism and Theories of Emergence

Introduction to Pragmatism and Theories of Emergence

Guido Baggio and Andrea Parravicini

- 1 Emergence is a pivotal concept for interpreting the reality of natural and social human life in all its processual complexity. The recently renewed debate about this concept and the different forms of emergentism is particularly varied, widely referring to biology, metaphysics, philosophy of mind (Kim 1999, 2005, 2006a,b; Cunningham 2001; Pihlström 2002; El-Hani 2002; El-Hani & Pihlström 2002; Chalmers 2006; Bedau & Humphreys 2008; Corradini & O'Connor 2010; Okasha 2012; Humphreys 2016; Sartenaer 2016; Lota 2017), neuroscience (Tononi & Koch 2015), as well as to social sciences (Hodgson 2000; Sawyer 2001; Lawson 2013). On such a perspective, some authors, like the proponents of the so-called Cambridge Social Ontology (Lawson 2013), support a form of emergentism which opposes to any kind of dualism that presupposes total independence between the domains of matter and mind, the physical and the social, thus avoiding, at the same time, any reductionist causal explanation of the latter through the former.
- 2 From a general perspective on emergence, some characteristics of the world, whether these are objects, properties or other things, manifest themselves as the result of the interconnection of other existing entities, usually more elementary, to which, however, they cannot be completely reduced (see Humphreys 2005). According to an evolutionary perspective, emergence is the occurrence of a new system that, before its appearance, cannot be predicted or explained through its antecedent conditions. In social sciences, Geoffrey Hodgson pointed out that emergence is a broader notion which “provides a necessary means to focus on higher-level units and relations and to avoid the potentially intractable problem of analytical reduction to lower-level units” (Hodgson 2000: 74-5).
- 3 Although the concept of emergence is taken as a point of reference in different disciplinary fields, it is nonetheless acknowledged to be very complex when investigated through a rigorous examination (for a recognition see Clayton & Davies 2006). Newsome (2009: 61-2) argued that “emergence” is “a pivotal concept for interpreting the reality of human life in all its complexity, from scientific endeavor to

personal morality to religious understanding. Although emergence is a notoriously difficult phenomenon to study rigorously, few areas of study are likely to prove as intellectually and practically consequential in the long run.”

- 4 The main difficulties actually concern the definition of what precisely is emergence (Kim 2006a), which is the nature of the related causal powers (Anjum & Mumford 2017) and what is its causation role (Bedau 2008; Lota 2017; Baysan 2018).
- 5 According to Stephan (1999a), the term “emergence” has different roles to play in different disciplines. As he noted, “there are three theories among the different varieties of emergentism deserving particular interest: *synchronic* emergentism, *diachronic* emergentism, and a *weak* version of emergentism” (Stephan 1999a: 49).¹ More recently, Richardson and Stephan (2007) indicated nine principal features of classical emergentism: 1) emergentism is naturalistic; 2) emergent properties are novel, though novelty “need not be a temporal claim” (Richardson & Stephen 2007: 92); 3) emergentism involves systemic properties which are irreducible and novel; 4) the systems are hierarchically organized; 5) emergence involves synchronic determination; 6) emergent properties are irreducible and therefore; 7) not deducible; 8) emergent properties are not predictable from first principles; and 9) emergent properties exhibit downward causation. According to Richardson and Stephan (2007: 94), the 8) and 9) are the most demanding conditions for emergence. In particular, the condition of unpredictability has to face with the question whether the organizational properties are themselves straightforward consequences of constituent properties; whereas the downward causation is the most controversial of the conditions, because if the higher levels of organisation are relevant to the behaviour of constituents, then the causal links provided at the lower levels would be incomplete or would violate what are thought of as “principles of physical closure” (see Campbell 1974; Kim 1992, 1993a, 1993b). It has to be noted that the difficulties with the physical closure mainly relate to a theoretical frame that only supports a physicalist version of naturalism, even though non-reductionist or “minimal” (Kim 2005: 13). However, different forms of scientific naturalism are possible which can help to face with the demanding conditions of emergence.² On this point, Sami Pihlström proposed an alternative path to Stephan’s perspective according to which all emergentisms are based on a physicalist monism. In Pihlström’s view, it is necessary to carry out a conceptual clarification about the notion of emergence, particularly regarding the theme of downward causation, which would bring that notion very close to the theoretical framework of pragmatist naturalism. According to him, the concept of “nature” that belongs to the naturalism of Peirce, James, Dewey, and Mead, offers a richer vocabulary and a wider horizon than those of physicalism, which dominates in contemporary metaphysical theories (Pihlström 2002: 165).
- 6 Now, although references to classical pragmatists and their more direct predecessors have been and continue to be rare in literature, it is undoubtable that the contributions that those thinkers provided to the first reflections on the notion of emergence are highly significant and deserve to be further investigated.
- 7 The earliest formulations on the notion of emergence date back at least to John Stuart Mill.³ In his *System of Logic* Mill distinguished between, on the one hand, heteropathic effect and (chemical) laws and, on the other hand, homeopathic effects and (mechanical) laws, arguing that “[t]o whatever degree we might imagine our knowledge of the properties of the several ingredients of a living body to be extended

and perfected, it is certain that no mere summing up of the separate actions of those elements will ever amount to the action of the living body itself' (Mill 1843, Bk.III, Ch.6, §1). A few years later, Chauncey Wright, the "coryphaeus" of the Metaphysical Club in Cambridge (Mass.) and the philosophical mentor of William James and Charles S. Peirce, coped with the Darwinian difficulties about the continuity and the differences between animal and human forms and he put at the center of his reflections the notion of "novelty," whose meaning was quite the same to that of "emergence." In his long essay "The Evolution of Self-Consciousness" (Wright 1873), the American philosopher draw an evolutionary continuity between animal instincts and human intelligence by showing that the latter *emerged* as a new function of some older traits and powers already present, to a lesser degree, in our proto-human ancestors (see Parravicini 2012).

- 8 In 1896, the British biologist C. Lloyd Morgan, who would have led early in the Twentieth century the emergentist movement, gave a lecture on "Habit and Instinct" at the University of Chicago (Morgan 1896), the very same year in which the functionalists James R. Angell and Addison W. Moore undertook a psychological experiment on attention and habit under the guidance of John Dewey and George H. Mead (Angell & Moore 1896). Morgan's thesis was that human evolution occurred mainly at a social-economic emergent level, which is not explicable in merely biological terms. He further developed his ideas in the following years and in 1923, three years after the publication of Alexander's *Space, Time, and Deity* (1979 [1920]) he integrated his emergentist view of evolution with Einstein's special and general theories of Relativity. According to Morgan, when basic physical processes achieve a certain level of complexity of an appropriate kind, genuinely novel characteristics emerge that could not be predicted neither from a full and complete knowledge of their lower level parts and relations. This theory was taken up a few years later by Mead (2002 [1932]), who tried to integrate his social psychology with the processual philosophy and the activity which structures the reality that organisms inhabit. In Mead's attempt to link together his social-behavioural psychology with the theory of relativity in order to avoid any psycho-physical dualism or reductionist naturalism, the notion of "emergence" refers to an evolutionary relational process which happens in a "specious" present and that can be explained only *a posteriori*. In the wake of Mead, Dewey developed a distinct variant of emergentism based on the concept of experience as "the result, the sign, and the reward of that interaction of organism and environment" (Dewey 1985 [1934]: 22. See also Alexander 1992). Before them, William James's evolutionary epistemology (James 1981 [1890]; 1977 [1909]). See Richards 1987; McGranahan 2017) can be seen as a way to explain the emergence of novelties in nature. New ideas and behaviours emerge in our social and natural environmental interactions as possible adaptive responses. Furthermore, many interpreters of Charles S. Peirce noted that his metaphysics entails a form of emergentism (Hacking 1983; Prigogine & Stengers 1984; Tiercelin 1998).
- 9 Summing up, for the classical pragmatists, emergentism can be considered as a compromise between physicalist reductionism and all-out dualisms.⁴ All pragmatists assumed a diachronic form of emergentism. Temporality plays a key role in their position and for their dynamic attitude to metaphysics in general, they were not much interested in synchronic dependence relations, which contemporary emergence theoreticians usually talk about.⁵

- 10 The focus of the *European Journal of Pragmatism and American Philosophy* on “Pragmatism and Theories of Emergence” addresses the lack of attention, in the current literature, on pragmatist authors in relation to the debate on emergence and emergentism. It is in fact undoubtable that the contributions those thinkers provided to the first elaborations of emergentism and to the related notion of emergence are deeply significant and deserve to be further investigated. The issue, therefore, collects contributions that offer some original ideas and interesting insights on Pragmatist tradition, and provides some new historical-theoretical perspectives to the issues of emergentisms from which to look at the current debate on emergence.
- 11 The issue, whose order of contributions follows, at least in principle, the historical-genealogical development of the pragmatist reflections on emergence, begins with a study on the thought of Chauncey Wright, the coryphaeus of classical pragmatist philosophers at Metaphysical Club in Cambridge (Mass). Andrea Parravicini’s “Pragmatism and Emergentism in Chauncey Wright’s Evolutionary Philosophy” focuses on Wright’s “forward-looking” thought and its close relationship with the rising pragmatist philosophy. In the framework of Wright’s original interpretation of Darwin’s evolutionary theory, the article explores the key notions of “novelty” and “new uses,” through which Wright developed an “emergentist” thought well ahead of its time. Furthermore, Parravicini analyzes Wright’s theoretical reflections about the origin of human self-consciousness as a paradigmatic case of authentic evolutionary novelty and, at the end of the paper, he focuses on Wright’s sketched pragmatic realism.
- 12 In “The Throne of Mnemosyne. Pragmatism and Emergence as Aspects of Organic Memory,” Kermit Snelson brings Peirce’s thought very close to that “organic memory” theories which flourished, but were strongly opposed, at Peirce’s times, and are remembered today in connection with discredited theories like Lamarckian inheritance. The author argues, however, that those theories can be viewed as the earliest attempt to build a “still-unrealized, post-nominalist re-foundation of science,” if we read them in the context of their own time. It is in the light of these considerations about the affinities between Peirce’s philosophy and those “organic memory” theories that Snelson provides brilliant insights into the systematic unity of the various aspects of Peirce’s thought, especially regarding the close relationship between pragmatism and what is now called “emergence.”
- 13 Both Jimmy Aames’s “Patternhood and Generality: A Peircean Approach to Emergence” and Maria Regina Brioschi, “Does Continuity Allow for Emergence? An Emergentist Reading of Peirce’s Evolutionary Thought” provide an emergentist reading of Peirce’s thought, although they draw their analyses from two different theoretical perspectives. Aames argues that the radical version of emergentism, which supports the idea of the existence of ontological emergence, and the ontological reductionism, which claims that all instances of emergence are epistemological, are both problematic. Inspired by the philosophical ideas of Charles S. Peirce and Daniel Dennett, the aim of the paper is to outline an alternative form of emergence that Aames calls “real pattern emergence.” Peirce’s pragmatism and Scholastic realism help the author, in particular, to identify such a real pattern with what Peirce calls a real general (or real Third). It is autonomous from the elements or processes instantiating it and supports predictions not only about what will happen in a given situation, but also about what would happen in a number of not-yet actualized situations. According to Aames, the autonomy

attributed to the real patterns is the crucial element which distinguishes them both from mere epistemological emergence and from ontological emergence.

- 14 In the wake of the path opened up by some recent emergentist readings of Peirce's thought, Brioschi aims to clarify the theoretical problem of emergence from a pragmatist perspective and to illustrate Peirce's standpoint through special reference to his evolutionary doctrine. After a brief introduction to the contemporary debates on emergence and a historical overview of Classical Pragmatism and British Emergentists, Brioschi focuses on an emergentist reading of Peirce's theory of evolution and shows how Peirce's strong emphasis on chance and the "growth" of the universe goes together with synechism, through what he calls agapasm.
- 15 In "Emergent Sign-Action: Classical Ballet as a Self-Organized and Temporally Distributed Semiotic Process," Pedro Atã and João Queiroz explore Peirce's pragmatic conception of sign action in the light of a distributed and emergent view of cognition. The authors consider semiosis as a temporally distributed process in which a regular tendency towards certain future outcomes emerges out of a history of sign actions. Within such a process, emergence is an ubiquitous condition, and the translation of signs into signs has to take into account a complex multi-level interplay of potentialities and tendencies, or upward constitutive determinative relations and downward selective determinative relations. According to this view, emergence is identified as a central defining condition of the meaning processes, as the authors illustrate well through the example of emergence of classical ballet, viewed as sign action and self-regulatory process.
- 16 Michela Bella's "Novelty and Causality in William James's Pluralistic Universe. From Psychology to Metaphysics" addresses William James's understanding of causal connections aiming to highlight the problematic relationship between *novelty and continuity*, that is to say, the issue of the emergence of genuinely new events in a paradigm of natural continuity. In particular, Bella focuses on the concept of *causality* that James already challenged in *Principles of Psychology* and, then, in a more systematic way, in *Some Problems of Philosophy* (1911) and *A Pluralistic Universe* (1909), attempting to clarify what his naturalism consists of in the light of emergentist conceptions.
- 17 Stephen Pratten's contribution on "Dewey on Organisation" compares Dewey's remarks on organisation with Tony Lawson's perspective on social ontology, and Mark Bickhard and Richard Campbell's interactivist framework. In particular, the article focuses on the different treatments of the organization, showing how in Dewey's later writings there are many remarks on organisation which anticipated some of the insights that have been systematically set out in the naturalistic perspectives of Lawson, Bickhard and Campbell, in which the thorough theorization of organization is considered to be crucial in accounting for emerging phenomena, resisting ontological and causal reductionism and resolving the ambiguities associated with certain formulations of downward causality.
- 18 The last three articles are mainly dedicated to G. H. Mead's thought on emergence. In "Evolution and Emergence. Comparing C. Lloyd Morgan's Emergentism and G. H. Mead's Processual Ontology," Guido Baggio detects the most significant turning points on the parallel intellectual paths that led Morgan and Mead to develop independently their theories of emergence. Taking as a starting point the Lowell Lectures Morgan gave in the winter of 1895-1896, as well as Mead's 1890s writings on psychophysics and comparative psychology, Baggio points out a similarity between Mead and Morgan's

ideas on organic and mental evolution at that time. He argues that Morgan's theory of emergence and Mead's processual ontology were conditioned by the reflections that the two thinkers had developed over the years and traces back their roots to the early 1890s. Furthermore, Baggio examines Lloyd Morgan's emergentism and Mead's processual ontology, pointing out more interesting similarities and dissimilarities.

- 19 Lawrence Cahoon's "Mead and the Emergence of the Joint Intentional Self" explores Mead's both non-reductive naturalistic account of "emergence" and the notion of "joint intentionality," employing mainly the work of William C. Wimsatt, Michael Tomasello and Thomas Suddendorf. In particular, Cahoon compares, on one hand, Mead's idea of "teleological" character of the emergent evolution with Wimsatt's notion of emergent *levels* as hierarchical divisions of stuff organized by part-whole relations. On the other hand, he puts in relation Mead's thesis that human mind is communicative, i.e., that thought is a conversation among cognitive and affective socially acquired and imaginatively recombined perspectives, with Tomasello's notion of "joint intentionality." Cahoon then tries to extend the notion of joint intentionality and to relate it to other features of human evolution, such as mental time travelling, language, and culture.
- 20 Scott Taylor's "G. H. Mead's Philosophical Hermeneutics of the Present" concludes the issue by putting George H. Mead in dialogue with Hans-Georg Gadamer. The paper aims to demonstrate how Mead's notion of emergence in the present of both past and future neatly aligns with Gadamer's philosophical hermeneutics and that Mead's philosophy of the present also amounts to a theory of interpretation. Taylor traces back the foundation of this claim to the pivotal influence of Wilhelm Dilthey on both Gadamer and the young Mead. The author, while putting Mead's texts into dialogue with some of Gadamer's most fundamental concepts, criticizes Hans Joas's several missed opportunities at providing a philosophical hermeneutic account of Mead's work.

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NOTES

1. According to synchronic emergentism, a property of a system is emergent if it is irreducible to the arrangement and the properties of the system's part, whereas diachronic emergentism argues that emergent properties could not have been predicted in principle before their first instantiation. These strong versions of emergentism are not independent of each other, "since irreducible properties are eo ipso unpredictable in principle before their first appearance" (Stephan 1999a: 49). Stephan also argues that at the basis of these strong versions there is a common 'weak' theory which presents three basic features, namely: the thesis of physical monism, the thesis of systemic (or collective) properties, and the thesis of synchronic determinism. See also Stephan 1999b.
2. On different versions of naturalism see L. Rudder Baker 2017. As Laughlin (2005: 208) argues: "science has now moved from an Age of Reductionism to an Age of Emergence."
3. On the history of British Emergentism see McLaughlin 1992.
4. For a similar version see O'Connor & Wong 2005; McLaughlin 1992.
5. On a recent version of diachronic ontological emergence see Humphreys 2016. On a confrontation between diachronic and synchronic emergence see Humphreys 2008.

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Pragmatism and Emergentism

In Chauncey Wright's Evolutionary Philosophy

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AUTHOR'S NOTE

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1. Introduction

1.1 Current Debates on the Notion of "Emergence"

During the last twenty-five years, the notion of "emergence" has gained renewed attention in different fields, from evolutionary biology to cognitive sciences, from social sciences to philosophy of mind.¹ This interest is connected to the possible application of the notion of emergence in the study of complex systems and to the possibility of developing a "non-reductive physicalism" (Crane 2001: 207). Emergence generally describes a new property or entity appearing when a system reaches a certain threshold of complexity. Although the emergent element must be connected to the system from which it emerges, it must also be *novel* (Bennett-Hunter 2015). Furthermore, "emergence" is related to a middle road between radical dualism and reductionism, i.e. to a theoretical position according to which the emergent phenomenon (e.g., biological life or consciousness) is "grounded in and yet emergent from the underlying material structure with which it is associated" (O'Connor 1994: 91).

In the contemporary debate, there is neither consensus about a shared definition of the term "emergence," nor a homogeneous use of the notion across the research fields where it applies. Current theories of emergence thus disagree as to how "emergent" phenomena ought to be interpreted (see Brioschi 2013, part I). An *ontological* view argues for the real status of the emergent novelties, considered to be real components of the world and irreducible to the lower level from which they originated (Bunge 2003). An *epistemological* view claims that "emergence" is "in the eyes of the beholder,"

i.e. that it is an object of our patterns of knowledge (Hempel & Oppenheim 1948; Baas & Emmeche 1997). Further important problems lie in the way we are to understand emergence, whether in a weak or strong sense. According to Chalmers (2006), we refer to a *weak* emergent phenomenon when “truths concerning that phenomenon are unexpected given the principles governing the low-level domain,” but deducible from them, while we interpret the emergence in a *strong* sense when “truths concerning that phenomenon are not deducible even in principle from truths in the low-level domain” (*ibid.*: 244).

Jaegwon Kim (1999: 20-4) has singled out some core topics in the current emergentist debates: a) complex higher-level entities and properties appear from lower-level elements and constituent parts, some of them being “emergent,” others mere “resultants”; b) emergent entities and properties are “unpredictable,” i.e. all information concerning their basic conditions cannot predict them in principle; c) the emergent properties are unexplainable and irreducible, which is to say that they are “neither explainable nor reducible in terms of their basal conditions”; d) the emerging entities or properties should exert some causal efficacy, both at their level and downward, on lower levels.

These topics involve some inconsistencies that still await to be solved. However, it is undisputable that in contemporary debates the notion of emergence represents a lively idea for “many thinkers, with diverse and disparate backgrounds and agendas – philosophers, practicing scientists from a variety of scientific fields, and science writers.” What makes emergence so attractive is, in Kim’s words (2006: 547), an “intriguing philosophical question.” Investigating the historical origins and the philosophical background of this notion will help to shed light on its meaning and on the reasons for such interest.

1.2 James and John Stuart Mill: the Dawn of the Emergentist Tradition

Emergentism originally developed in the UK in the nineteenth century. John Stuart Mill (1806-1873) is considered the noble father of this tradition, as he systematized an early version of the notion (without using the word), starting from some theoretical insights of his father, James Mill (1773-1836).

In *Analysis of the Phenomena of Human Mind* (1829), James Mill aimed to provide a psychogenetic foundation for utilitarian ethics, by reducing all the phenomena of human consciousness to an association of representations. Within this associationist framework, Mill claimed that “ideas which have been so often conjoined” seem “to coalesce [...] and out of many to form one idea.” This complex idea “appears to be no less simple, than any one of those of which it is compounded” (Mill 1829, I: 68-9). Many of our most general ideas, such as those of “extension,” “motion,” or “time,” have been commonly regarded as simple ideas. On the contrary, they have different origins, being the complex result of a number of simpler elements (*ibid.*: 70-1). In other words, Mill describes the entities resulting from the aggregation of simpler parts not as the mere sum of those parts, but as *novel entities*, whose properties appear different from the characteristics of each part taken singularly.

In the preface to the second edition of *Analysis*, John Stuart Mill claims that the main task of that work is to “reach the simplest elements which by their combination

generate the manifold complexity of our mental states and to assign the laws of those elements”: a process akin to “the labour of the chemist to reduce the compound bodies on which he operates [...] to their constituent elements.” Therefore, Mill continues, just “as in chemistry, it often happens that the qualities of the separate ingredients of a compound body are not recognizable by us in the apparently different qualities of the compound itself,” in the “chemistry of the mind, the compound sentiment that results from the association of former feelings” has “very little resemblance to these constituents of it” (Mill [1829] 1878: viii-x).

In Book III of *System of Logic* (1843), J. S. Mill provides a generalization of this “chemical” causality and distinguishes it from “mechanical” causation – also called the “Principle of Composition of Causes.” According to such principle, which applies to physics and mechanics, the effects produced by every single cause when acting alone combine in a mechanical and deducible way that “is exemplified in all cases in which the joint effect of several causes is identical with the sum of their separate effects” (Mill 1843: 426). Chemical causality, which characterizes chemistry and other scientific fields such as biology, consists in the combination of two different substances to produce “a third substance with properties entirely different from those of either of the two substances separately, or of both of them taken together.” These *heteropathic* (as opposed to *homopathic*) effects and laws concern phenomena in which the joint effect of causes is heterogeneous with respect to the sum of the separate effects.

Unlike mechanics, chemistry is not a deductive but an *experimental science*, since “most of the uniformities to which the causes conformed when separate, cease altogether when they are conjoined” and we are not “able to foresee what result will follow from any new combination, until we have tried it by specific experiment” (*ibid.*: 427). This is even more true for biology, as living phenomena – which are made up of parts similar to those composing inorganic nature – “bear no analogy to any of the effects which would be produced by the action of the component substances considered as mere physical agents.” Even if we were to possess perfect knowledge about the ingredients of living bodies, “it is certain that no mere summing up of the separate actions of those elements will ever amount to the action of the living body itself” (*ibid.*). According to Mill, like chemical and biological laws, which “will never be deducible from the mere laws of the ingredients,” mental, social and political phenomena follow the same complex *heteropathic* patterns (*ibid.*: 430-2).

As Carlo Sini (1972: 80-1) has highlighted, both J. S. Mill and his father warn us to not confuse the *origin* of a feeling or representation, with its emerging *value*. Although water appears to be an original element in nature, it is the chemical result of the composition of gaseous molecules of hydrogen and oxygen, each presenting completely different properties compared to the resulting liquid compound. Similarly, a feeling may emerge as a novel trait, as in the case of pure altruistic generosity, yet derive from the associations of original representations that have nothing to do with altruism and generosity. Once the new property has emerged, however, it presents itself as an entirely independent value, even though it has been discovered to be the complex result of the combination of simpler parts.

1.3 British Emergentism and the Pragmatist Tradition

The *System of Logic*'s section "Of the Composition of Causes" has been defined "as the *locus classicus* on the notion of emergence" (McLaughlin 1992: 58-9; Nagel 1961: 372). Beyond Mill's analyses, the evolutionist tradition from Darwin and Spencer to Wallace and Haeckel contributed to defining a problematic framework within which mature British emergentist positions were expounded, particularly through the work of Conwy Lloyd Morgan (1852-1936) (cf. Blitz 1992: 46). The main problem for Darwin and the evolutionist tradition was to trace the continuity in dynamic developments from the inorganic world to the organic, from the lower living forms to those on a higher level, and to find a proper place for the emergence of the psychic dimension. Both the framework composed by the evolutionary tradition and the theoretical distinctions drawn by Mill, and subsequently developed by Alexander Bain (1870) and George Henry Lewes (1875), lay the roots of so-called classical British emergentism in the early twentieth century (Stephan 1992: 25). The term "emergent" appeared for the first time, in its technical sense, in Lewes (1875: 412-3), who posed the problem of the continuity of nature, but refuted the traditional idea that the qualities of the whole should be present in its parts and that subsequent events in an evolutionary process should reproduce the properties of antecedent events. Lloyd Morgan adopted the same approach in *Emergent Evolution* (1923: 5): "Evolution [...] is the name we give to the comprehensive plan of sequence in all natural events. However, the orderly sequence, historically viewed, appears to present, from time to time, something genuinely new. Under what I call emergent evolution stress is laid on this incoming of the new." According to Lloyd Morgan, although there is continuity in the evolution of natural phenomena, it is impossible to *predict* features that emerge in the context of complex natural systems from their bases in antecedent events. Any emergence is an ontological novelty, not just an epistemic sign of the limits of human knowledge (Blitz 1992: 99).

Further emergentist texts appeared in 1920's Great Britain in addition to Lloyd Morgan's work, such as *Space, Time, and Deity* (1920) by Samuel Alexander (1859-1938) and *The Mind and Its Place in Nature* (1925) by Charlie Dunbar Broad (1887-1971). Alexander presented his idea of emergent quality within a broad metaphysical-theological framework, where he tried to put together the emergence of irreducible qualities with their derivability from rigorous physical-chemical laws. Broad's work, where "the main doctrines of British emergentism receive their most mature formulations" (McLaughlin 1992: 68, 79-89), challenges both the idea of the reducibility of all sciences to physics and the belief that physics is the fundamental form of scientificity. Broad distinguished two different kinds of scientific laws, i.e. *intra-ordinal* laws, which "connect the properties of aggregates of the same order," and *trans-ordinal* laws, which characterize the emergence of higher-level properties and relations, insofar as these cannot be deduced before their occurrence in nature (Broad 1925: 77-8).

Although British emergentists did not develop any unitary doctrine, they paved the way for a general emergentist conception based on common assumptions (see McLaughlin 1992: 49-51), which constituted "an alternative to mechanism and vitalism" (Stephan 1992: 25). It is not my intention to reconstruct the different historical and conceptual phases of the emergentist debates in detail.² It suffices to say here that the direction outlined by British emergentism has been advocated in current debates, where – to quote Kim (2006: 548) – "any account of emergence [...] should show

significant continuity with the concept that the British emergentists of the early 20th century, such as Alexander, Morgan, and Broad, had in mind.”

This briefly sketched history of the emergentist tradition shows interesting connections with so-called classical Pragmatism. Ferdinand C. S. Schiller, John Dewey and George Herbert Mead, engaged with emergentism, participated in the debates about it and, in some cases, adopted emergentist terminology.³ The notion of emergence is particularly crucial in Mead’s *Philosophy of the Present* (1932), where it is connected with Mead’s philosophy of time and with the social character of the human mind, self and language. As Dewey states in his *Prefatory Remarks*, Mead “took the doctrine of emergence [much more fundamentally] than have most of those who have played with the idea” (Mead 1932 [2002: 33]). In the *Introduction* to the same text, Arthur E. Murphy writes that “the dominant strain in these lectures” derives from “that philosophy of nature which will no doubt be regarded as the characteristic contribution of the 1920’s in Anglo-American philosophy,” of which “Alexander’s *Space, Time and Deity* was the pioneer work” (*ibid.*: 14). The debates on emergentism were so spread among Anglo-American scholars in those years that Murphy regards the notion of “emergence” as a “catchword” of that period (*ibid.*: 11). This fact is what may have fueled the interest of the classical pragmatists, who actively participated in the debates on the matter and engaged with British emergentism. Conversely, emergentist thinkers such as Lloyd Morgan, Alexander and Broad never considered Pragmatism an interesting philosophy to be examined in relation to their own ideas or used to develop their own thought, except for the work of William James, who was especially appreciated as a psychologist.⁴

It is noteworthy that in the literature regarding the relationship between Pragmatism and emergentism, almost nothing is said about Chauncey Wright (1830-1875), a philosopher close to Mill’s and Bain’s thought and a crucial figure for the origins of Pragmatism. In particular, he developed a very modern “emergentist” thought, which struck the attention of at least one of the leading British emergentists: Samuel Alexander once told Harold J. Laski that he had “discovered Chauncey Wright through an old bookstall” in London, where he had come across the *Philosophical Discussions* (see Wright 1877 [PD]), and “was very impressed.”⁵ Laski adds in the same letter that Alexander “said that C. W. gave him the impression of the most powerful philosophic mind America had so far produced” (De Wolfe Howe 1953, II: 1327-8). The letter is from 1931 and, unfortunately, there is no indication as to when precisely Alexander encountered the work of Wright. Depending on the date of this encounter (before or after 1920), Wright may or may not have directly influenced Alexander’s views about emergence. In any case, as Edward Madden (1964: 75) has noted, Alexander “was more than impressed with it and projected ideas like Wright’s into his own full-blown doctrine of emergence.” However, Madden continues, “Wright would not have approved this destiny of his little idea, for Alexander even had God as an emergent event.”

In the light of these last remarks, I shall now turn my attention to Chauncey Wright, whose emergentist and pragmatic thought deserves to be examined more deeply than it has been done in literature so far.

2. Chauncey Wright's Pragmatic Empiricism

2.1 A "Forgotten American Philosopher"

Chauncey Wright⁶ was a North American philosopher, best known today as the “coryphaeus” (CP 5.12) of the Metaphysical Club in Cambridge (Mass.) that around 1872 gave birth to American Pragmatism. Almost all Club members (including William James and Charles S. Peirce) were Wright's old friends and their philosophical thought was deeply influenced by him. With his brilliant epistemological interpretation of the evolutionary theory, Wright can be considered a kind of philosophical *intermediary* who helped promote that fruitful interaction between pragmatist thought and the Darwinist tradition, which still produces fruitful results both in philosophy and in biology.⁷

Wright was interested at first in William Hamilton's “philosophy of the conditioned,” but in the 1860's he converted to the utilitarian and associationist philosophy of Bentham, Bain and the two Mills. Wright was not only an original positivist thinker, who held that the job of philosophy was to unify or organize the sciences,⁸ but he was himself a scientist, equipped with scientific expertise in several fields, from mathematics to botany, from physics to biology. When Darwin's *Origin of Species* (1859) appeared in the USA, Wright immediately declared himself a staunch Darwinian (LCW: 43) and tried to combine the theoretical cornerstones of the “descent with modification” theory with utilitarian and associationist philosophy. Wright spent more than ten years studying Darwin's theory and he deeply understood its scientific meaning and philosophical relevance, as witnessed by Darwin himself (LCW: 230-1). In his evolutionist papers, in a pure positivist spirit, Wright not only defended the scientific principle of natural selection, but also investigated the logic that inspired Darwin's theory and grasped its theoretical core in a way that was far ahead of his times.

Limits of Natural Selection (1870) is the earliest article on the evolutionary theory and it reviews Alfred R. Wallace's essay by the same title (1870). In this essay and in (1869), Wallace denies that natural selection could ever explain the origin and evolution of the most typical human traits. Wright's criticisms of Wallace's arguments were appreciated by Darwin, who even quoted Wright's work twice in *Descent of Man* (1871, II: 335, fn.31; 391). Given Darwin's interest, in June 1871 Wright wrote to him, attaching the draft of a second essay, *On the Genesis of Species* (1871a). In this text too, Wright sided with Darwin, this time against the serious criticism that the British biologist George Mivart had advanced in a text bearing the same title (Mivart 1871). Wright wrote to Darwin that his paper had the “special purpose” of contributing to the evolutionary theory “by placing it in its proper relations to philosophical inquiries in general” (LCW: 230). Darwin answered enthusiastically: “I have hardly ever in my life received an article which has given me so much satisfaction.” (LCW: 230). He asked Wright for permission to reprint the paper, at his own expense, as a pamphlet in the UK. That was the beginning of a fruitful correspondence, which lasted until Wright's sudden death, in September 1875.

In 1872, Wright set off on a European journey for a few months and spent two days with the great naturalist and his family in the famous Down House. Here, Wright and Darwin discussed the possibility of dealing with the problem of the evolutionary origin of human self-consciousness and its possible differences with respect to the mind of other

animals. Together they planned to lay the foundations of a new field of research, called *Psychozoölogy* (LCW: 248). Wright's most important essay, *The Evolution of Self-Consciousness* (1873), should have been the inaugural text of that grandiose project (see below, section 4). Unfortunately, Wright died shortly afterwards before completing what, according to Schneider (1946: 351), "if he had lived to develop it, would certainly have been one of the major works in history of American thought."

Except for Madden's work, consisting of two general monographs (1963, 1964) and a good number of essays, there are very few pages dedicated to Wright, who today is largely a "forgotten philosopher."⁹ Furthermore, those few scholars who have dealt with this philosopher have examined more general aspects of his thought, such as his philosophy of science, his theory of knowledge, and his criticism of metaphysics. Others have just tried to draw a comparison between Wright's philosophy and pragmatist and neo-positivist thought, to determine if this thinker should be regarded as a "founder," "precursor" or "forerunner" of these later philosophical currents. Moreover, most of the very few pages that scholars have devoted to Wright's philosophy of biology were wrote before 1980, and none of them try to analytically compare Wright's Darwinism, including his notion of "novelty," with the epistemological approach prevalent in modern evolutionism and emergentist debates. The attitude of most American scholars towards Wright's work is best expressed by the judgment formulated by Madden (1964: 108), according to whom "we can ignore Wright's biological view [...] because it is philosophically irrelevant."

Despite all this, Wright's reflections on biology and evolution appear very relevant, first of all in order to better understand those aspects that make Wright's philosophy very similar to the emergentist approach and pragmatist attitude. Furthermore, they are of great interest when compared to today's debates on evolution and emergence. Given these reasons, *this article* aims to examine Wright's evolutionary philosophy and to discuss the application of his "emergentist" approach to the paradigmatic issue of the origin of human self-consciousness.

2.2 Wright's "Forward-Looking" Empiricism

Wright began to study *The Origin of Species* in detail immediately after its publication. However, he published almost nothing on the topic for the subsequent ten years. In the 1960's, Wright's interest focused mainly on the structure of scientific thought in general.

One of the most significant writings from that period is *The Philosophy of Herbert Spencer* (1865a), where Wright not only criticizes Spencer's philosophy effectively, but also carries out some interesting analyses of the scientific method in general. "[W]hatever be the origin of the theories of science, whether from a systematic examination of empirical facts by conscious induction, or from the natural biases of the mind," Wright claimed, "the *value* of these theories can only be tested [...] by an appeal to sensible experience, by deductions from them of consequences which we can confirm by the undoubted testimony of the senses" (PD: 47). In other words, the *value* of any scientific hypothesis is measured not by looking at the way it comes into being, but by examining the *effects* produced when it is tested through "concrete experiences of a kind common to all" (LCW: 97). Scientists are interested much more in the consequences of a tested hypothesis than in the method used to obtain it.

For “traditional” empiricists such as Hume and Mill, all human knowledge derives from sensible experience. This view mainly focuses on the way a scientific idea originates, and it usually results in the prescription that scientific hypotheses should derive from sensible experience. Although Wright defines himself as a follower of the empiricist tradition, he actually reverses its theoretical assumptions by considering the origin of a scientific hypothesis irrelevant: “when and however ideas are developed science cares nothing, for it is only by subsequent tests of sensible experience that ideas are admitted into pandects of science.” (PD: 47). Scientific hypotheses should produce a series of predictions that can be tested in sensible experience and lead, in turn, to new observations and truths. Science does not care about the “ontological pedigree or *a priori* character of a theory,” but it is “content to judge it by its performance” (PD: 47), as a “theory which is utilized receives the highest possible certificate of truth” (PD: 51).

The usefulness of a hypothesis appears to be a perfect criterion of verification, insofar as it provides the kind of parameters of certainty that science has been able to apply extensively in the interpretation of natural phenomena. Moreover, Wright states that the notion of utility is related to the “instrumental” use of scientific ideas for “their *capacity to enlarge our experience* by bringing to notice residual phenomena, and making us observe what we have entirely overlooked” (PD: 55; italics mine). Scientific ideas should prove their value as instruments that, once immersed into experience, are able to extend it and unearth what we had ignored in previous observations. Scientific hypotheses are thus “*working ideas, – finders, not merely summaries of truth*” (PD: 56; italics mine) and they pragmatically define their value according to their operational capacity to *find* or *produce* truths. They are effective *working hypotheses* leading us to new truths and not simply records or enumerations of observations leading to mere inductive generalizations.

Wright’s empiricism differs from British empiricism, as it aims to re-orient the focus of philosophical and scientific inquiry by diverting attention away from the origin of concepts and hypotheses, and directing it to the control of their consequences. While the traditional empiricists were interested in showing that every hypothesis should derive from experience, Wright insisted that the origin of a theory is indifferent, and the key point is to consider the future consequences that hypotheses produce. In other words, Wright turned “classic” empiricism into a new kind of empiricism that we may define as “forward-looking” (see Madden 1964: 124-6).

Although these remarks do not allow us to consider Wright’s forward-looking approach as thoroughly pragmatist, they allow us to regard it as an important guideline that strongly points towards a rising pragmatism (Parravicini 2012). An essential element that connotes the so-called “pragmatist revolution” is precisely the move to put the role of “effects” at the center and insist on what “real difference” any idea entails in terms of conceivable consequences as a method to clarify its meaning.¹⁰ This is the core idea behind Peirce’s pragmatic maxim (e.g., CP 5.402) and James’ definition of pragmatism, which consists in “*the attitude of looking away from first things, principles, ‘categories,’ supposed necessities; and of looking towards the last things, fruits, consequences, facts*” (James 1978: 32).

Furthermore, Wright’s definition of scientific ideas as “working hypotheses” is a very pragmatist one (see Pearce 2020: ch.7). Dewey used almost the same Wright’s words to describe the theoretical shift leading from classical empiricism to pragmatist instrumentalism, which

presents itself as an extension of historical empiricism with this fundamental difference, that it does not insist upon antecedent phenomena but upon consequent phenomena [...] and this change in point of view is almost revolutionary in its consequences. An empiricism which is content with repeating facts already past has no place for possibility and for liberty. It cannot find room for general conceptions or ideas, at least no more than to consider them as *summaries or records*. But when we take the point of view of pragmatism we see that general ideas have a very different role to play [...]. *They are the bases for organizing future observations and experiences.* (Dewey 1925b: 365-6; italics mine)

Despite these similarities, Wright never generalized his epistemological approach to scientific hypotheses by developing it into a pragmatist theory. Nevertheless, Wright's forward-looking strategy could be considered an incipient pragmatist conception, probably emerging from the frequent and prolonged philosophical discussions that Wright entertained from the 1960's with Peirce, James and his other friends at the *Metaphysical Club*.

As we will see in the next section, the philosophical move towards a forward-looking empiricism is closely related to Wright's examination of Darwin's evolutionary theory.

3. Evolution and the Notion of "Novelty"

3.1 Wright Between Darwinism and Pragmatism

The "history of evolutionism is intimately linked with the genesis of Pragmatism" (Wiener 1949: 30). Since the *Metaphysical Club* period, Wright, Peirce, James and the other companions perceived the epochal importance of the evolutionary theory and investigated its logic through their peculiar pragmatic approach, which in turn was fueled by Darwin's perspective. Later, Dewey and Mead further strengthened that powerful bond holding together the evolutionary perspective and the pragmatist approach.

Wright is "our key figure" to understand the link between evolutionism and Pragmatism in all of its different forms (Wiener 1949: 33). In two essays published in the very years of the *Metaphysical Club* meetings, Wright (1871a, 1872) defended Darwin's theory against Mivart's attacks, at the same time reflecting on some philosophical aspects of the evolutionary theory. As regards Darwin's use of "accidental variation," Wright clarifies that "accidental" does not refer to *pure chance*, but to the incapacity to foresee the occurrence of variations due to the presence of an inextricable interplay of factors (PD: 130-3). The word "chance" reflects the occurrence of complex phenomena, which originate from a series of intertwined causal chains that we are not able to disentangle for the purpose of prediction (PD: 173-4).

Regarding this aspect, Wright pointed to a fundamental feature of Darwin's theory, namely that *the causal level of variations and that of natural selection should be considered independent from each other*. This means that individual variations, which are "constant and normal in a race," have to be regarded as "accidentally related to the advantages that come from them." Similarly, we say, "a tendril, or a tentacle [...] is accidentally related to the object it succeeds in finding" or "that it was by 'accident' that a certain tendril was put forth so as to fulfill its function, and clasp the particular object by which it supports the vine." In other words, *"The search was and continues to be, normal and general, it is the particular success only that is accidental"* (PD: 143-4; italics mine).

Wright identifies two distinct meanings in Darwin's use of "accident" and "chance" in relation to variations. In a sense, the latter are called "accidental" as they cannot be predicted, owing to human ignorance about the causes producing them. Even today, scientists believe that genetic mutations are produced by specific causes (e.g., radiations, chemical mutagens, etc.), but they consider it useless and almost impossible to identify the precise factors that, from time to time, produce mutations in certain DNA portions within an infinitesimal timeframe.

The second, and more interesting, meaning of the word "chance" regards the fact that variations are accidental in relation to their "particular success," i.e. to the (positive, negative or irrelevant) consequences they have for organic forms. In other words, the reasons for the origin of given variations are largely independent of the function or value that these variations possess, once they have entered in the dynamic context of environmental relationships, in which every variation is subject to the severe sieve of natural selection (Parravicini 2012: 148-9; Pievani 2015: 2).¹¹ Variations are fundamental for the evolutionary process, because they provide the fuel without which no selective process could take place. Nevertheless, the origin of variations is attributable to a range of causes independent of environmental conditions (i.e., "selective pressures") and of any results in terms of phenotype performances. Such *contingent* interweaving of different causal levels leads to the *differential survival* (i.e., natural selection) of some organisms compared to others, statistically based on the advantage produced by certain variations with respect to others. This is the reason why Wright states that "the origin of that which through service to life has been preserved, is to this process arbitrary, indifferent, accidental (in the logical sense of this word), or non-essential. This origin has no part in the process." (PD: 252). From Wright's point of view, it is not important to know precisely what causes *have given rise* to a certain "accidental" variation, but to examine the *actual consequences* of a variation.

In the wake of Wright's analyses, we may apply to Darwinian explanations Mill's warning about confusing the origin of an idea with its emerging value (see par.1.2). In other words, the causes of the origin of variations should not be confused with the selected *effects* related to their *value for life*. American paleontologist Stephen Jay Gould, who warned us to keep separate the reasons for the origin of structures or behaviors from their current meaning for life, recently reaffirmed the same admonition (Gould 2002: ch. XI).

Wright claims that the process subtended by the misleading term "evolution" (PD: 199) does not refer, as traditionally believed, to an "aprioristic" process involving a "relation of beginning and end - a development" (Wright 1866: 725). Evolution is not an *unfolding* of properties already implicitly present from the beginning or a movement directed towards a predetermined path, similarly to "an epic poem" that is divided into "a beginning, a middle, and an end" (PD: 73-4). Darwin has generated a radical break with all those cosmic-evolutionary views "which make the cause to be engendered by the effect" (PD: 101). There is no immanent design, but only an accumulation of variations selected for reasons that are independent from those for which they arose. There is no linear or unidirectional movement, but a process of sedimentations and additions (PD: 262) in which the preserved variations contingently constrain and influence the direction of the process.

In such an evolutionary process, where the effects of the contingent causal plots become visible only *in retrospect*, any variation is comparable to a sort of *hypothesis* that

can only be validated as useful or discarded as irrelevant or harmful in the future. All variations, however they may have arisen, “are beginnings, not ends; potentialities, not finalities; candidates for office, not appointments due to their inherent goodness” (Chambliss 1960: 146).

A clear analogy emerges here between Wright’s interpretation of Darwin’s evolutionary theory and the *ratio of effects* characterizing what we have called “forward-looking” empiricism (par. 2.2). According to this forward-looking logic, the value of a scientific hypothesis is tested through the consequences that follow from its implementation in sensible experience. In the same way, the value of any organic variation is measured once it has passed through the sieve of natural selection, based on the consequences it has generated for the life of organisms. Max H. Fisch (1966: 15) perfectly summed up this analogy:

The experimental theory of knowledge [i.e., the pragmatic approach] owed its prevalence among us in part to Darwinian analogies. It is but a more general form of the philosophy of science which makes much of hypothesis, prediction and experiment, and make’s little of Bacon’s and Mill’s methods of induction. The analogies lie between the *hypothesis* and the *spontaneous variation* on the one hand, and between the *experiment* and *natural selection* on the other [...]. *What tests a scientific hypothesis is future experiment, not the observations from which it sprang.*

The value of an organic variation is selectively tested in terms of its usefulness in the struggle for life, just as the “cash value” (James 1978: 35, 117) of an idea is tested in terms of the conceivable consequences it generates in experience. In conclusion, this kind of forward-looking approach developed by Wright can be considered a crucial aspect tightly linking together Darwinism and pragmatism.

3.2 Evolutionary Novelties

The notion of *novelty* is crucial in Wright’s evolutionary philosophy and closely related to the classical concept of *emergence*. Wright tried to combine Mill’s associationist framework (included his emergentist analyses – see par. 1.2) with his own original interpretation of Darwin’s theory. In such a framework, the notion of “novelty” is the key concept through which Wright tried to understand the deep nature of living phenomena, which he considered “a higher form of chemistry” (LCW: 204).

In a letter dated 22 March 1870, Wright declares that the apparently regular patterns of life are the result of infinitely complicated plots made of different causal lines giving rise to a self-conserving equilibrium. Life builds a contingent multi-level order out of the physical and chemical laws of the universe, but this “order” is “an entirely exceptional and precarious state of things” (LCW: 177). Living forms ultimately show the “same mixed character of regularity and apparent accident” as all other natural phenomena, which is to say the same “infinitely complex and confused movement [...] of action and counteraction in the balanced forces from which they spring” (PD: 5). Nevertheless, Wright considered the biological sciences to be radically different from other scientific fields, like mechanical physics or astronomy. Against Mivart, who considered biology “essentially a branch of physical science,” Wright defended the autonomy of living phenomena, which show their own peculiar (we might say *emergent*) patterns and processes – like natural selection – which are “operative in nature but not reducible to the laws of physical science.”¹²

The accidental features that combine with the linear operation of physical-mechanical laws pervade the natural world and show all their evidence in the phenomena of life. Wright clearly showed the complete reversal operated by Darwinian logic with respect to any “aprioristic” view of natural processes (see par. 3.1). Each new event or combination of events, like a variation in some trait of a given organism, may produce unpredictable consequences in the economy of life and modify the course of the evolutionary process. As we began to see in the previous paragraph, according to Wright evolutionary novelties emerge at the crossroad between the causal plots that produce any given variation, and those occurring at the different level of ecological/environmental interactions, in which the same emerging variation concretely operates. In such a multi-level evolutionary framework, the occurrence of a new trait may take the form of an *authentic novelty* whether it exhibits characters different and unpredictable from those of the antecedent conditions that give rise to it. In the wake of Mill’s analyses, Wright (1873) argues that

Experimental science, as in chemistry, is full of examples of the discovery of new properties or new powers, which, so far as the conditions of their appearance were previously known, did not follow from antecedent conditions, except in an incidental manner, – that is, in a manner *not then foreseen* to be involved in them; and these effects became afterwards predictable from what had become known to be their antecedent conditions only by the empirical laws of rules which inductive experimentation had established. (PD: 201)

Unpredictable *novelties* can always emerge from a set of antecedent conditions that have characteristics *qualitatively different* from what emerges from their combination. In Wright’s view, the natural world is a “great alchemic experiment” which employs “all the influences of nature and all the ages of the world” (PD: 167). In such a great “work of creative power,” any accidental combination of factors could open up the possibility of the emergence of new qualities.

Wright specifies that any “really new power in *nature*” is “only involved potentially in previous phenomena,” as in the case of “the power of flight in the first birds” (PD: 200). However, the term “potentially” here does not refer to a pre-formatinal process of “*evolutio*,”¹³ i.e. to a process in which a latent potentiality is already involved and progressively unfolds. On the contrary, Wright understands novelty as an authentic and unexpected event (cf. Madden 1964: 74-6), meaning that it cannot be rationally attributed to potentialities contained in acknowledged antecedent conditions prior to its first empirical occurrence. In other words, before the empirical experimentation has been actually conducted and registered, it is not possible in principle to rationally foresee the occurrence of the novel fact, or explain whether it is “involved potentially” in a set of given causes or conditions. Indeed, it is the inductive experimentation of the novelty, the registration of its empirically verified effects, that retroactively enlightens and establishes a-posteriori the “incidental” causes or antecedent conditions of those novel effects, which from then on become predictable.

Wright clarifies that we should not posit a supernatural event behind the “appearance of a really new power in *nature*.” Such events, although they are not deducible before their first occurrence, are “still *natural* events,” where the word “nature” means “those kinds of effects which, though they may have appeared but once in the whole history of the world, yet appear dependent on conjunctions of causes which would always be followed by them.” One experiment could be enough to establish such causal dependence, “though the particular law so determined is a wholly empirical one.”

“Scientific research implies the potential existence of the natures, classes, or kinds of effects which experiment brings to light through instances, and for which it also determines, in accordance with inductive methods, the previously unknown conditions of their appearance.” (PD: 202). The novelty and the conditions of its occurrence can thus be explained *only in retrospect*, after it has already happened at least one time.

Wright’s reflections about novelty, on the one hand, appear to be undoubtedly undergirded by the peculiar scientific positivism and forward-looking empiricism developed by the American thinker from the 1960’s. On the other hand, they closely recall the reflections made by classical British emergentists, who also emphasized the unpredictable aspects of novel entities emerging from their composing parts or starting conditions (Stephan 1992). Like Wright, they did not deny the possibility, based on experience, of making predictions about the nature of novel properties. They only denied the possibility of *deducing* emergent properties from their basic conditions and *before having registered in the experience what these conditions actually bring about when they come together* (Zhok 2011: 62). Both Wright and classical emergentism agree that any novelty is thus unpredictable in principle before it occurs and can only be postdictively reconstructed starting from the effects, in order to infer the antecedent hypothetical conditions.¹⁴

Wright’s analyses fit well even with some modern influential biological views. One of the most eminent biologists of the 19th century, Ernst Mayr (1982: 53), uses the words of Herbert A. Simon to define life phenomena as complex systems where “the whole is more than the sum of the parts [...] in the important pragmatic sense that, given the properties of the parts and the laws of their interaction, it is not a trivial matter to infer the properties of the whole.” There are “two reasons why biological events are so often unpredictable: the great complexity of biological systems and the frequency at which unexpected novelties emerge at higher hierarchical levels [...]. These factors do not weaken the principle of causality, conceived in a ‘postdictive’ sense.” (*Ibid.*: 58). Within this very Wrightian framework, Mayr mentions another core element of Wright’s thought, namely the idea of the “*randomness* of an event with respect to its significance.” Quoting Karl Popper and Lloyd Morgan, Mayr concludes that “we live in a universe of emergent novelty,” and that “such emergence is quite universal” (*ibid.*: 63).

4. Exaptive Emergent Novelties: Human Self-Consciousness

4.1 Wright and the Evolution of Self-Consciousness

The emergence of the human mind is a key issue both for the emergentist debate and for the current research in the evolutionary field. In his major work, Wright (1873) describes the origin of human self-consciousness as a paradigmatic example of an *authentic emergent novelty*, i.e. a “really new power in nature.” Wright states that “no act of self-consciousness, however elementary, may have been realized before man’s first self-conscious act in animal world” (PD: 200-1). Human self-consciousness is a real novelty, unpredictable and not deducible before its occurrence. The new trait is recognized to be potentially involved in pre-existing powers or causes *only after* its appearance in the animal world, in the sense explained in the previous section. Wright provides an interesting image to further clarify this point:

The derivation of this power, supposing it to have been observed by a finite angelic (not animal) intelligence, could not have been foreseen to be involved in the mental causes, on the conjunction of which it might, nevertheless, have been seen to depend. The angelic observation would have been a purely empirical one. The possibility of a subsequent analysis of these causes by the self-conscious animal himself, which would afford an explanation of their agency, by referring it to a rational combination of simpler elements in them, would not alter the case to the angelic intelligence, just as a rational explanation of flight could not be reached by such an intelligence as a consequence of known mechanical laws; since these laws are also animal conditions, or rather are more general and material ones, of which our angelic, spherical intelligence is not supposed to have had any experience. Its observation of the conditions of animal flight would thus also be empirical. (PD: 201)

Similarly to what the British emergentists will claim about fifty years later, Wright is arguing that the emergence of the earliest acts of self-consciousness, such as those of other living structures or capacities (e.g., flight), is rationally explainable through a series of antecedent conditions or causes that nonetheless may reveal features different from, and incidental to, the novel trait resulting from them. However, before the new emergent quality actually occurs, no prediction of it is possible, nor any rational explanation in terms of antecedents or conditions of possibility, even if we imagine a superhuman angelic intelligence analyzing the entire process. In other words, a superhuman intelligence of this sort would not have been able to rationally foresee the emergence of the novel power of human self-consciousness through the mere observation or analysis of its mental antecedents or composing traits. As noted in the previous section (§3.2), it is *in principle* impossible to deduce the emergence of a novelty (e.g., human self-consciousness or flight) before any actual empirical observation of it, and only through a mere rational analysis of its composing parts or antecedent conditions. Even an angelic intelligence needs to empirically experience the novelty in order to reconstruct the antecedent conditions of its emergence.

Both according to Wright and to classical emergentism, it is not crucial to admit that the emergent novelty is contingently unpredictable or unexplainable because of the relative limits of scientific knowledge at a given time. What it is fundamental to acknowledge for them is that the emergent properties or entities are *in principle* and *essentially* unpredictable and non-deducible (Zhok 2011: 53-69). However, such unpredictability does not entail a complete elusiveness of the emergent novelty from a rational point of view. Far from admitting a kind of *creatio continua* or arbitrary unpredictability, the emergentist thinker, like Wright, claims that the emergent novelty should display a constant and regular link with its material conditions or basic components. Nonetheless, both the constraining link and the supervenience of the emergent novelty *cannot be foreseen in principle before the emergent property actually manifests itself*. Once the emergence manifests itself empirically, it should be possible to use the link with its material base to foresee the appearance of the same emerging properties on future occasions.

Furthermore, Wright argues that the material conditions for the emergence of the human mind are different from their result. Mental events belong to a new class of phenomena, being a qualitative emergence that cannot be wholly deconstructed into physical atoms, neuronal movements or cerebral areas. Mental events may be fully conditioned by physical-cerebral processes, but the former are not entirely reducible to the latter. Although the result is not reducible to its antecedent conditions, the process

remains continuous from the point of view of natural laws, and rationally explainable a-posteriori.

As Wright (1870) noted, it is worth spending intellectual energy to carry out empirical research on “the special physical antecedents, concomitants, and consequents of special sensations” or on the relations of co-presence between physical and mental realities.

[S]uch researches may succeed in reducing all other facts of actual experience, all our knowledge of nature, and all our thoughts and emotions to intelligible modifications of these simple and fundamental existences; but the attempt to reduce sensation to anything but sensation is as gratuitous and as devoid of any suggestion or guidance of experience [...]. In one sense material phenomena, or physical objective states, are causes or effects of sensations, bearing as they do the invariable relations to them of antecedents, or concomitants, or consequents. But these are essentially empirical relations, explicable perhaps by more and more generalized empirical laws, but approaching in this way never one step nearer to an explanation of material conditions by mental laws, or of mental natures by the forces of matter. Matter and mind co-exist. There are no scientific principles by which either can be determined to be the cause of the other. (PD: 117-8)

In conclusion, according to Wright, the relation between mind and brain is not a cause-effect relation, but one between two co-existent yet different dimensions, each with its own irreducible specificity. In other words, mind is an irreducible emergent effect, not an epiphenomenon of brain processes.

4.2 The Emergence of Self-Consciousness as the “New Use of Old Powers”

In the evolutionary framework described by Wright, the principle of “new uses” plays a crucial role, closely related to the notion of “novelty.” As Wright (1873) argues,

new uses of old powers arise discontinuously both in the bodily and mental natures of the animal, and in its individual developments, as well as in the development of its race, although, at their rise, these uses are small and of the smallest importance to life. They seem merged in the powers to which they are incident, and seem also merged in the special purposes or functions in which, however, they really have no part, and which are no parts of them. Their services or functions in life, though realized only incidentally at first, and in the feeblest degree, are just as distinct as they afterwards come to appear in their fullest development. The new uses are related to old powers only as accidents, so far as the special services of the older powers are concerned [...]. (PD:199-200)

The principle of “new uses of old powers,” sometimes called the “principle of uses,” entails the aforementioned idea that each variation is accidental as far as purpose is concerned (see section 3.1). Any trait may embody a plurality of new uses that could unexpectedly emerge in consequence of changes in the ecological-environmental niche. A trait that originally emerged in relation to certain uses may be later co-opted for further functions that are accidentally involved, or the same function may be realized by different traits that evolved for different uses. In Wright’s words,

many mental as well as bodily powers thus have mixed natures, or independent uses; as, for example, the powers of the voice to call and allure, to warn and repel, and its uses in music and language; or the numerous uses of the human hand in services of strength and dexterity. And, on the contrary, the same uses are, in some cases, realized by independent organs as, for example, respiration in water and in the air by gills and lungs, or flight by means of fins, feathers, and webs. (PD: 200)

Wright provides many other examples of his principle. The incipient rattle of the rattlesnake, the expanding neck of the cobra (PD: 158-9) and the long neck of the giraffe (PD: 151-2) could all serve many different functions. Wright clarifies that “*The use which may be presumed in general to govern selection is a combination, with various degrees of importance, of all the actual uses in a structure*” (PD: 191); it is “the combination of all the uses that are of importance to the preservation of life.” Therefore, to suppose that one of these uses was of little importance in the incipient stage of a structure does not rule out “the existence of uses more important which would afford grounds of advantage and competition in the struggle for life” (PD: 193).

Wright’s idea that the evolutionary process is based on a reserve of structural and functional redundancies makes this process more similar to one of tinkering, which accidentally patches up old structures for new uses, rather than to the activity of an engineer, who optimally designs and adapts every trait from the outset.¹⁵ In addition, the principle of new uses strengthens the admonition that the causes of variations should not be confused with their value for life (see section 3.1). As the principle of uses predicts that a trait which originally emerged in relation to certain uses or for no use at all may later be co-opted for different functions, it also implicitly warns us not to confuse the reasons for the origin of a given structure with the current uses of it.

In the light of all this, it is not hard to see a close similarity between Wright’s principle of uses and the evolutionary process called *exaptation*, in the wake of Gould & Vrba (1982)’s proposal.¹⁶ This principle plays a crucial role among modern evolutionary biologists, for whom the warning to keep the historical origin of a given feature distinct from its current use is as valid today as it ever was, being an antidote to any teleological or “adaptationist” interpretation.

Wright (1870) began to propose an application of his principle of uses to contrast Wallace’s argument on the impossibility for natural selection to account for the origin of the most typical human traits, both mental and physical. Later, Wright made extensive use of the same principle in an essay on phyllotaxis (Wright 1871b) and in two reviews (Wright 1871a, 1872) of Mivart’s *Genesis of Species* in order to defend Darwin’s theory, especially against those invoking “the incompetency of natural selection to account for the incipient stages of useful structures” (Mivart 1871: ch.2). It is noteworthy that the above-mentioned articles (except Wright 1872) appeared before the publication of the *Origin*’s sixth edition, where Darwin added an entire chapter (the seventh) to refute objections against natural selection and used, against Mivart, arguments very similar to Wright’s.¹⁷ Even in his last letter to Darwin (Feb. 1875), Wright emphasized the central role of the “plurality of uses” principle within the architecture of evolutionary theory, whereas Darwin regarded it as a mere scholium (LCW: 336).

In *The Evolution of Self-Consciousness* (1873), Wright applied the principle of uses in order to rethink the origin of human mind and language, thus largely anticipating contemporary scientists’ proposal to apply the exaptive mechanism as a means to account for the emergence of modern human cognition.¹⁸ According to Wright, a trait or a power which originated in relation to certain functions may be coopted for different uses. In Gould’s words (2002: 1226), the wing may have been selected for reasons different from flight, i.e., for thermo-regulative functions or for no function at all, and then coopted for flight. Similarly, to Wright, the human mind evolved through new uses of some old powers, namely through a new capacity to remember and

manipulate signs. In Wright's analysis, "internal images or successions of images which are the representative imaginations of objects and their relations" are "effective as notative, directive or guiding elements in thought" not only for humans, in whom they are supplemented by names, but also in "dumb animals," for which they serve as "instruments of thought in judgement and reasoning" (PD: 208). However, even in the most intelligent animals, those images are so "vague and feeble" that "they cannot be associated with outward signs in such a manner as to make these distinctly appear as substitutes, or signs equivalent to them" (PD: 209). Those images that act as signs "in governing trains of thought and reasoning," in the animal mind are immediately forgotten, "merged in the things signified, like stars in the light of the sun," as the outward signs are much more vivid.

The emergence of the human mind is *the consequence of a new use of those internal images*, made possible by "an extension of the range in powers of memory, or in revived impressions." Selected variations in the mental powers of proto-humans were the conditions for the emergence of human intelligence, allowing it "to fix its attention on a vivid outward sign, without losing sight of [...] an image or revived impression" which serves as "*a sign of the same thing, or the same event*" (PD: 210; italics mine). For the first time, internal images were *recognized* as "representative images," namely as signs for outward objects and external images. This new use opened up the possibility of recognizing representative images as "my thoughts, or our thoughts, or as phenomena of the mind" (PD: 216). They now came to be recognized as general signs that could be intentionally used even in the absence of the corresponding impressions. "This would plant the germ of the distinctively human form of self-consciousness." (PD: 210).

It is not my aim here to explain Wright's hypothesis on the origin of human self-consciousness in detail. It is sufficient to emphasize the importance of Wright's evolutionary logic of effects and the crucial role played by the idea of emergent novelties and new uses. A gradual and continuous sedimentation of small accidental variations in a series of traits, selected in relation to some favorable reasons and functions, may give rise to qualitatively different and unexpected emergent consequences. In the case of human consciousness, a combination of different factors – such as a gradual strengthening of memory and attention, a gradual encephalization, and a continuous development of phonatory structures – may have set the bases for a functional shift in the proto-human mind towards a new use of internal images as signs. In Wright's words, "reflection is a distinct faculty, and though, perhaps, not peculiar to man, is in him so prominent and marked in its effects on the development of the individual mind, that it may be regarded as his most essential and elementary distinction in kind. For differences of degrees in causes may make differences of kinds in effects." (PD: 217).

The principle of uses thus has a strategic function when integrated with the notion of "novelty," as it can bring together in a coherent way the discontinuous event of the novelty, in the form of a functional shift, and the continuous tissue of the evolutionary process, i.e. the continuity of the evolving bodily traits from which the new use emerges. As regards human self-consciousness, a small functional shift within the continuous tissue of the bodily structure may have accidentally triggered the emergence of "a really new power in nature" that no examination of the antecedent conditions could ever have foreseen, before the actual manifestation of the power itself.

Furthermore, in Wright's view, every emerging novelty or new use can produce "incidental developments" that may modify the evolutionary trajectory, implicitly suggesting the possibility of a kind of downward causation. This is another aspect that brings Wright very close to the British emergentists, and to Lloyd Morgan above all. For both thinkers, the emergent novelty may generate downward consequences that change "the way pre-existent events run their course," thereby causing them to be "altered in the context of that new kind of relatedness" (El Hani & Pihlström 2002: 2-3). The emergence of the human self-consciousness is a paradigmatic example, owing to the significant evolutionary effects generated after its emergence, such as, in Wright's words, "the traditions of language, with all the knowledge, histories, arts and sciences involved and embodied in them." All these consequences that have irreversibly modified the course of evolution "are developments incidental [...] to the existence and exercise of self-consciousness [...] and were added to them rather than evolved from them" (PD: 262). This process, which is far from constituting some kind of instructive or pre-formational development,¹⁹ clearly exemplifies what Wright means by "novelty," i.e. an inedited emergence from a combination of causes which produces incidental side effects that can in turn change the evolutionary trajectory.

5. Neutral Monism and Pragmatic Realism

One of the most important side effects of the emergence of human self-consciousness is the ability to distinguish between "inner" and "outward" phenomena. As Wright argues, such a distinction between mental and external phenomena is the product of inferences on signs, not a magical "intuitive distinction," as supposed by "most metaphysicians" (PD: 219). Before a phenomenon is judged to be "internal" or "external," "real" or "mental," it is *neutral* and completely indistinct with respect to those divisions. The ability of attribution, Wright claims, "comes either from the direct observation of our progenitors, or, possibly, through the natural selection, of them; that is, possibly through the survival of those who rightly divided the worlds, and did not often mistake a real danger from a dream" (PD: 231).

The human mind classifies experiences for pragmatic reasons of survival, and in doing so it creates the distinction between "self" and "world," between "inside" and "outside," between "mind" and "body." These distinctions are not already given a priori, as the Cartesians thought, but are consequences of the evolutionary process. At the outset, when a phenomenon is still *unattributed* to the "internal" or "external" world, there is *neutrality* between the two worlds. This is the reason why Wright claimed that "matter and mind co-exist" (see section 4.1).

Madden defined Wright's position as "neutral monism" (Madden 1954, 1963: 128-42) and regarded it as being very similar to James' idea of "pure experience," according to which the phenomena of consciousness are originally neutral and assume a functional-adaptive role through experience.²⁰

Wright's view, which is critical of any form of dualism, natural realism or idealism, is reminiscent of the "pragmatic realism" characterizing the subsequent pragmatist philosophy, according to which something is real when it produces effects on us or somewhere. In an article devoted to *Masson's Recent British Philosophy* (1866), Wright argued that

A question is closed when we have a knowledge precluding the possibility of evidence to the contrary, or where we are ignorant beyond the possibility of enlightenment. An ontological knowledge of the supernatural, or even of the natural – that is, a knowledge of anything existing by itself and independently of its effects on us – is, according to the experiential philosophy, a *closed question*. (PD: 348; italics mine)

This position, which is foundational to Wright’s peculiar positivism (cf. Pearce 2015: 448-9), is further clarified in a letter to Francis E. Abbott (1867), where Wright states that what something *is* actually coincides with the phenomenon, namely with what *is knowable*, and that, conversely, the knowable is everything that *is*: “To say the phenomena are all that exists is to say that, in knowing phenomena, we know all the natures that exist.” (LCW: 131). In other words, being is its effects and coincides with what is knowable, similarly to what Peirce would argue shortly thereafter in *Questions Concerning Certain Faculties Claimed for Man* (1868).

What Wright claims concerning the crucial importance of effects for the definition of what really exists or what is actually knowable perfectly fits with the above-mentioned “forward-looking empiricism” (see section 2.2) and is another crucial clue that brings Wright’s thought closer to the genuine sense of “the pragmatist revolution.”

Traces of “pragmatic realism” emerge again when Wright, in his essay on Spencer, defines the meaning of scientific concepts in terms of their effective use and of their sensible effects in concrete experience: “Chemical forces are not mathematically comprehended, and are therefore utterly unknown, save in their *effects*, and their laws are unknown, save in the observed invariable orders of these *effects*” (PD: 79; italics mine). The same idea is expressed in Wright (1865b): “Do we know more of the phenomenon, viewed without reference to other phenomena, by saying it is produced by force? Certainly not. All we know or see is the effect; we do not see force, – we see motion or moving matter.”²¹

These pragmatic elements connoting Wright’s “forward-looking empiricism” seem particularly significant if we consider that, according to El-Hani and Pihlström (2002: 33), a form of pragmatic realism can provide a key theoretical contribution to better understand the notion of “emergence” and to overcome the theoretical problems that are involved in “the purely ontological, metaphysically realist treatment of emergence typical of most contemporary approaches.” El-Hani and Pihlström (2002: 22, 24-5) claim that a “pragmatic realism,” which is “inherently pluralistic and anti-reductionistic,” supports the idea that “ontology is not clearly separable from epistemology” and that “emergent properties are not metaphysically real independently of our practices of inquiry but gain their ontological status from the practice-laden ontological commitments we make.” Therefore, pragmatism (and, we may add, Wright’s forward-looking empiricism) “might serve as a background philosophical framework supporting a ‘mildly realist’ interpretation of the reality of [...] emergent properties” as dependent “on human ontological classifications, although we should, in the spirit of reasonable naturalism, say that they have (diachronically) ‘emerged’ out of the non-human world.”

6. Concluding Remarks

The notions of “novelty” and “emergence” have been examined through the original lens of Wright’s pragmatic and evolutionary philosophy. Wright never used the term

“emergence,” which was introduced in its technical sense by Lewes (1875) in the year of Wright’s death. However, in the light of what has emerged here, Wright’s reference both to living phenomena in terms of novelties unexpectedly appearing in the evolutionary process, and to the human mind as an evolutionary emergent novelty, represents much more than “a kind of embryonic emergentist view,” as Madden (1964: 74) wrote. Wright’s reflections, combining Mill’s emergentism and Darwin’s evolutionism, project his thought into the future, since they prove to be very close to later developments in classical pragmatist thought and British emergentism, and even to some more recent perspectives in evolutionary biology.

As Brioschi (2019: 2.2) has recently noted, the ideas of irreducible “novelty” and of “mind in evolution” represent two key traits that classical pragmatism shares with British emergentism. Both these notions have been shown to lie at the core of Wright’s philosophical analyses.

Significantly, Samuel Alexander “was very impressed” by Wright’s thought and expressed ideas very similar to Wright’s with his 1920 doctrine of emergence (see par. 1.3). On the pragmatist front, beyond James and Peirce, whose philosophical views were directly influenced by Wright’s thought, an emergentist position in many respects close to Wright’s was expressed by Mead, especially in *The Philosophy of the Present*.²² Furthermore, Mead (1934) adopted an idea similar to Wright’s one of “new uses of old powers” in describing the *emergence* of the human “mind” as the outcome of a new use of the vocal gesture.

Wright’s conception of “novelty,” incorporated both into an original evolutionary view and into an embryonic pragmatist framework, radically transformed Mill’s emergentism. It is very likely that Wright borrowed his own emergentist framework from the two Mills and the associationist tradition, which provided a useful key to interpret Wright’s conception of living processes. However, as Sini (1972: 84-5) pointed out, the associationist notion of “analysis” is a static procedure that can still throw light on a mosaic of factors, but which “cannot grasp or foresee the whole of this mosaic, neither for what refers to the past, nor for what concerns the future.” In the light of these words, we may claim that Wright was able to transfer the idea of emergent novelty from the static conceptual framework of associationism to the much more dynamic Darwinian evolutionary thought. In Wright’s eyes, the “descent with modification” theory represented an element capable of transforming the principle of utility into a valid criterion for the genealogical reconstruction of the constitution of complex elements. In this sense, I fully agree with Peirce, who once told Wright that Darwin’s “ideas of development had more vitality” than Mill’s conceptions, and that this “little vine clinging to the tree of Associationism, [...] after a time [...] would inevitably kill the tree” (CP 5.64, 1903).

In conclusion, Wright’s thought can be interpreted as a crucial landmark not only to enlighten the strategic connection between Darwinism and pragmatism, but also to better understand the key transition from associationist interpretations of emergence to later philosophical and biological debates (from British emergentism onwards). Modern discussions on emergence are no longer nourished by the “Associationist tree,” but rather – as Peirce correctly predicted – by Darwin’s original “little vine.” This has grown into a very solid tree, supporting the entire research program of the biological sciences, nourishing a wide variety of other scientific disciplines, and constituting for

philosophy – even today – “the greatest precipitant of new methods, new intentions, new problems” (Dewey 1910: 19).

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Abbreviations

CP x.y = PEIRCE Charles S., (1931-1958), *Collected Papers*, volume x, paragraph y.

PD:x = WRIGHT Chauncey, (1877 [2000,1]), *Philosophical Discussions*, page x.

LCW:x = WRIGHT Chauncey, (1878 [2000,2]), *The letters of Chauncey Wright*, page x.

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NOTES

1. See Beckerman, Flohr & Kim 1992; Bedau & Humphreys 2008; Clayton & Davis 2006; Corradini & O'Connor 2010; Francescotti 2007; Kauffman 2019; Kim 1999, 2006; Okasha 2012; Pihlström 2002; Seidel & Greve 2017; Van Gulick 2001.
2. See Stephan 1992 for a historical and conceptual reconstruction of the different outlines characterizing the emergentist tradition.
3. To quote a couple of examples, in *Experience and Nature* Dewey defines his philosophical reflections about mind as "an attempt to contribute to what has come to be called an 'emergent' theory of mind" (Dewey 1925a: 271), while Schiller examines the notions of "emergence" and "novelty" in his article entitled *Creation, Emergence, Novelty* (1930). See El-Hani & Pihlström 2002; Sawyer 2002; Doat & Sartenaer 2014; Baggio 2015, and the articles in this *EJPAP* special issue, some of which also compare James and Peirce's pragmatism with the emergentist tradition.
4. For further bibliographic details, see Brioschi (2019: 2.1).
5. Laski recalls this episode in a letter dated 3 September 1931 and addressed to Oliver Wendell Holmes Jr. (1841-1935), a judge of the US Supreme Court and a crucial figure of the Metaphysical Club in Cambridge (Mass.), where pragmatism was born as a philosophical movement (Menand 2001).
6. For a full list of Wright's works and critical studies on his thought, see Parravicini 2011. On Wright's life and career, see Madden 1963, 1964; Menand 2001; Norton 1877; Ryan 2000; Sini 1972; Wiener 1949; Wright 1878.
7. On the close relationship between Darwinism and classical pragmatism, see Fabbrichesi 2011; Mc Granahan 2017; Menand 2001; Parravicini 2009, 2012; Pearce 2020; Sini 1972; Wiener 1949.
8. "Positivism, to be sure, so far as it pretends to be a philosophy at all is more than the body of the sciences. It must be a system of the universal methods, hypotheses and principles which are founded on them, and if not a universal science in an absolute sense, yet must be coextensive with actual knowledge and exhibit the consilience of the sciences" (Wright to Abbot, February 10,

1869, in LCW: 141). See Pearce 2015, and De Groot 2004 on Wright's non-canonical (and not specifically Comtean) positivism.

9. This is how O. W. Holmes Jr. referred to Wright in a letter (see Wiener 1949: 174). Madden (1952) wrote an essay entitled *Chauncey Wright: Forgotten American Philosopher*. Nevertheless, at the beginning of the new millennium interest in Wright was renewed by the reprint of his *Philosophical Discussions* (1877, PD), along with his *Letters* (1878, LCW) and a series of old essays by various scholars on different aspects of Wright's thought (Ryan 2000).

10. See Fabbrichesi 2009. See also below, section 5.

11. Darwin explained this point in 1868, II:248-9; 431.

12. Wiener 1945, 1949. See also PD: 136-8.

13. The Latin term *evolutio* designates the act of unfolding something, e.g. a roll of parchment. This term was used by those pre-Darwinian biologists of the 18th century who supported a "pre-formational" view, according to which the evolutionary process was assimilated to the unfolding of the immanent potential of an Essence, preformed and not changeable from the beginnings. See Gould (1977: 34-5).

14. The peculiar logical structure of this kind of postdictive inference that we may call – in the words of Huxley (1881) – a "retrospective prophecy" (see also Ginzburg 1983) recalls what Peirce named "retroduction." We leave the attempt to prove this connection up to future studies, as this would lead us too far from our current goal. However, if this link were confirmed, the logic of retroduction that supports pragmatist philosophy as a guiding principle could somehow be acknowledged as the kind of inference that drives the "retrospective prophecies" of the Darwinian scientists.

15. François Jacob 1977 drew an analogy between the evolutionary process and the activity of the *bricoleur*.

16. See also Gould (2002: ch. XI). For an in-depth comparison between the modern notion of *exaptation* and Wright's principle of uses, see Parravicini (2012: 169-94).

17. See Gould (2002: ch. XI) on Darwin's arguments against Mivart's objections and Parravicini (2012: ch.3) on Wright's arguments against Mivart.

18. See, e.g., D'Errico & Colagè 2018; Fitch 2012; Parravicini & Pievani 2018; Tattersall 2014.

19. As Kupiec & Sonigo (2000:14-5) argue, according to an instructive model "[l]e résultat du processus préexiste toujours, de manière virtuelle, au processus réel. Le moule définit le résultat avant qu'il n'apparaisse. Dans la version darwinienne c'est rigoureusement l'inverse: la pâte à modeler se transforme spontanément et [...] le résultat ne préexiste pas."

20. Many studies have revealed the great influence that Wright's conceptions exerted on James. See Kennedy (1935); Madden (1954; 1963: 128-42; 1964: 108, 130-1); Schneider (1946: 539); Wiener (1949: 54-5). R. B. Perry wrote that "It is impossible to read the *Evolution of self-consciousness* without being constantly reminded of James" (Ryan 2000: 145). On James' views, see the very recent Bella 2019.

21. The same example about "force" is found in Peirce's *How to make our ideas clear* (1878: CP 5.403).

22. See, e.g., Mead ([1932] 2002: 45-6) and Mead (1938: 413). On Mead's emergentism see also Baggio 2019.

ABSTRACTS

The notion of “emergence” has recently received renewed attention in research fields ranging from biology to cognitive sciences and philosophy of mind. Today’s concept of “emergence” incorporates a long history of philosophical debates and reflections that can be traced back to James and John Stuart Mill and nineteenth-century associationist philosophy. This tradition reached its theoretical maturity in the early twentieth century with so-called classical British emergentism, which gained the attention of pragmatist philosophers from the beginning. In the current literature exploring the relationship between Pragmatism and the emergentist tradition, almost nothing is said about the interesting case of Chauncey Wright (1830-1875), a follower of J. S. Mill and A. Bain, and a crucial figure for the origins of pragmatist philosophy. After a brief historical introduction about the history of the notion of “emergence” and its relationship to classical Pragmatism, the paper aims to examine Wright’s philosophy in relation, on one hand, to the pragmatist tradition and, on the other hand, to the problem of emergence. In the wake of Wright’s original interpretation of Darwin’s evolutionary theory, the article focuses on the key notions of “novelty” and “new uses,” through which Wright developed an “emergentist” philosophy that was well ahead of its time and attracted the interest of Samuel Alexander, one of the major philosophers of classical British emergentism. In the second part, the paper analyzes Wright’s reflections about the origin of human self-consciousness as a paradigmatic case of authentic evolutionary novelty. In the final part, the article focuses on the kind of pragmatic realism sketched out by Wright and summarizes the most important aspects to have emerged during the scholarly debate on the topic.

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The Throne of Mnemosyne

Pragmatism and Emergence as Aspects of Organic Memory

Kermit Snelson

Introduction

- This paper will argue that Peirce was a strong emergentist and that his pragmatism was a corollary of this underlying cosmological commitment. Before proceeding with this argument, however, it is necessary to explain the methodology used. First, the methodology itself seeks to illustrate the close relationship between emergence and pragmatism by recognizing that the significance of inquiry lies not in “results,” which are always provisional, but rather in the vitality of the semiotic processes of which these results are emergent properties. Second, any claims that this paper makes to originality do not depend on its observation that Peirce’s pragmatism results from his strong emergentist cosmology, a conclusion which is arguably self-evident, but on its analysis of this cosmology in terms of the historical context. It is well-known that past imaginations of the distant future usually and often even comically reveal themselves, with the advantage of hindsight, to have been only expressions of their own time, but it is less well-known that present accounts of “history” are just as often constrained by what Peirce, referring to this very phenomenon, called *Ichheit*, or the tendency to project contemporary concerns and fashions onto the past (1903: MS 475-6). This introductory section will then first explain how the pragmatist methodology employed by this paper, based on an emergentist cosmology, seeks to avoid this peril while interpreting Peirce and the long-ago scientific milieu in which he worked.

Peirce's system was not an individual achievement (Peirce 1893b: 200; CP 6.317; W 8.205), but rather emerged from a late 19th century episode in science which has become so obscure in our own time that "excavations of a scientific Atlantis" (Schacter 2001: 106) are now required to fathom it. This obscurity may be explained by the causal efficacy of generalizations, a crucial element of Peirce's system known in the emergence literature of our own time as "downward causation." Peirce draws a distinction between science in general, which is a "living thing," and the specific "thoroughly established truths" it produces (1902: CP 1.234). "Mere knowledge, though it be systematized, may be a dead memory; while by science we all habitually mean a living and growing body of truth. We might even say that knowledge is not necessary to science" (Peirce 1893a: 3559; CP 6.428). The "mere knowledge" established in Peirce's day is still with us – evolution, genetics, relativity, quantum theory – but only as "dead memory," because we have forgotten the long-departed "greater persons" (Peirce 1892c: 21; CP 6.271; W 8.183) who produced them.

Peirce's version of "downward causation" may explain the current obscurity of past mentalities in still another way. If "systematized knowledge" ever again "becomes the object of science, it is because in the advance of science, the moment has come when it must undergo a process of purification or transformation" (1902: CP 1.234). It is inevitable, however, that such moments will be resisted. A generalization, like any real entity, is subject to the law of inertia (Kammerer 1919: 107-21) and will therefore resist its absorption into a higher generalization. As Alfred North Whitehead (1861-1947) writes: "The obscurantists of any generation are in the main constituted by the greater part of the practitioners of the dominant methodology. Today scientific methods are dominant, and scientists are the obscurantists." (Whitehead 1929: 35).

The main premise of the present paper is that the moment for "purification or transformation" has come again (Gare 2013) and that Peirce may help to show the way.

A full understanding of his work, however, requires that we must turn away from the "thoroughly established truths" of his time and toward its actual science: i.e., the now-forgotten "conjectures, which are either getting framed or getting tested" (1902: CP 1.234) of his contemporaries, especially those with whom he shared the pages of

The Open Court and *The Monist*

, the house organs of the American branch of the organized Monist movement (Weikart 2002) founded by the German morphologist Ernst Haeckel (1834-1919). The stated purpose of these journals, published in Chicago and environs by an immigrant from Germany, the zinc tycoon Edward C. Hegeler (1835-1910), and edited by another, the philosopher and theologian Paul Carus (1852-1919), was, in the former's words, "to establish religion on the basis of science" (Guardiano 2017). It is not a coincidence that Peirce's final formulation of his system was published as part of such an agenda, as a comparison with the work of the previously cited Viennese biologist Paul Kammerer (1880-1926), a vigorous and public activist on behalf of the Monist "religion of science" and the "social Lamarckism" it espoused (Hofer 2002: 177-83), will show.

The following argument is divided into six sections, each employing Kammerer as a guide throughout. The first section, “Emergence,” demonstrates that Peirce was, in today’s terms, a strong emergentist who argued for mental causation and antireductionism. The second section, “Habit,” describes the crucial role of habit in Peirce’s justification for his strong emergentist position. The third section, “Memory,” points out the striking resemblance between Peirce’s conception of habit and the Lamarckian “organic memory” theories promoted by organized Monism. The fourth section, “Mind,” begins with Peirce’s identification of “habit-taking” with the “law of mind,” a psycho-physical stance closely related to that of Gustav Theodor Fechner (1801-1887), and proceeds to discuss various proposed physical interpretations of “organic memory” in terms of physical chemistry, psychophysics, inertia, probability theory, and what is now called non-ergodicity. The fifth section, “Form,” draws a connection between “organic memory” and several developments during the same

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Formenlehre

of the mathematician Hermann Graßmann (1809-1877) and his brother Robert (1815-1901), and Peirce’s concept of “sign,” defined as “any medium for the communication or extension of a Form” (1906: EP 2.477). The sixth section, “Generals,” demonstrates how Peirce’s argument for strong emergence is a necessary consequence of his anti-nominalism. The seventh section, “Religion,” discusses the theological conclusions Peirce drew from his anti-nominalist stance and compares them to the “religion of science” promoted by organized Monism. The eighth section, “Pragmatism,” discusses the consequences of Peirce’s theological views for the three “normative sciences” (1902: CP 1.281), namely logic, ethics, and aesthetics, thus bringing the argument linking emergence and pragmatism to a close. The paper concludes with a brief discussion of the continuing relevance of “organic memory” theory in the still-unfinished quest for a post-nominalist re-foundation of science.

1. Emergence

Only the current obscurity of the historical milieu in which Peirce worked and published can account for the recent literature which asserts that “no pragmatist, perhaps excluding [Joseph] Margolis, has presented any careful conceptual treatment of emergence” (El-Hani & Pihlström 2002), or for the authoritative recent histories of emergence in which Peirce’s name is either completely absent or mentioned only in passing (Blitz 1992; Clayton & Davies 2006; Corning 2012). Peirce, the acknowledged founder of pragmatism, was in fact “among the first of the early emergentist

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theory of emergence

, an attempt to explain or provide a reasonable account of emergence in general as an explicable fact of Nature” (Rose 2016: 124). Peirce’s writings indeed abound with passages which are clearly descriptions of what is today called emergence, irreducibility, downward causation, and antireductionism.

The contemporary literature of emergence offers many definitions of these terms, and the present discussion will begin with those provided by Queiroz and El-Hani, 2006.

Emergentism is “a naturalistic and physicalist position, according to which the evolution of physically constituted systems show [

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sic

], from time to time, critical turning points, in which new organizational patterns arise, and, thus, new classes of systems exhibiting novel properties and processes” (81).

Moreover, emergentists “treat these properties

as irreducible, basically in two different senses: (i) emergent properties can be irreducible because they cannot be analyzed in terms of the behavior of a system’s parts (unanalyzability), or (ii) because they depend on the parts’ behavior within a system of a given kind, and this behavior, in turn, does not follow from the parts’ behavior in isolation or in other (simpler) kinds of system (non-deducibility)” (81).

Emergentists also posit a concept related to non-deducibility called downward (or mental) causation, namely “a downward determinative influence of the system as a whole on the behavior of its parts, from which follows the non-deducibility of the latter behavior (downward determination)” (82). Finally, the emergentist position “opposes reductionistic treatments of emergent processes and properties, and, consequently, of the systems exhibiting them, in principle theoretical unpredictability, i.e., the idea that emergent properties or processes are not only novel but also cannot be theoretically predicted before their first appearance” (82).

8
What connects emergence, irreducibility, downward causation, and antireductionism is the idea that properties, laws, and causal efficacy apply to what

Fechner

called “collective objects” (Heidelberger 2004: 299-300) rather than to individual objects. An illustration of this principle has already been given in the introduction to this paper in its proposal that Peirce’s work as an individual cannot be understood in isolation from the collective historical scientific milieu to which it belonged. It is significant that Peirce described his philosophy of inquiry using the example of the termite mound, canonically used in our own time to illustrate the emergent phenomena found in nature: “The individual scholar looks upon himself as only one of a vast army of ants who are collectively building up something which no one of them can comprehend in advance or is destined ever to see, but which is to be the solace, stimulus, and strength of future generations.” (Peirce 1892a: 3375).

Peirce’s description of science itself as an emergent phenomenon indicates the actual meaning of his often-noted dictum that “Logic is rooted in the social principle” (Peirce 1878: 611; CP 2.654; W 3.284). Like insect societies, Peirce’s community of inquirers cannot be accurately described as rational, cooperative dialogue between disinterested individuals. If so, Peirce could not have written that “harmonious cooperation supposes that fundamental principles are settled. Until they become so, dispute has to be the method in which a given science shall make its way to the light” (1902: CP 2.166). He also could not have written that for some crucial areas of inquiry, it is better to be a “recluse” (1906: CP 6.175). Rather, Peirce’s “social principle” means that any community has a mind of its own, far beyond any conscious intention of its individual members. Like all groups, communities have emergent effects irreducible to the action of the individuals which comprise them:

9

None of us can fully realize what the minds of corporations are, any more than one of my brain cells can know what the whole brain is thinking. But the law of mind clearly points to the existence of such personalities, and there are many ordinary observations which, if they were critically examined and supplemented by special experiments, might, as first appearances promise, give evidence of the influence of such greater persons upon individuals. It is often remarked that on one day half a dozen people, strangers to one another, will take it into their heads to do one and the same strange deed, whether it be a physical experiment, a crime, or an act of virtue

.(Peirce 1892c: 21; CP 6.271; W 8:182-3)

The previously mentioned Paul Kammerer gathered from personal everyday experiences, newspaper clippings, etc. such an extensive collection of these “strange deeds” that the treatise in which it appeared (Kammerer 1919) has been almost
 10 universally misunderstood to be a treatise on coincidences (e.g.

Freud 1919: 390-1; Jung 1952: 17-9; Koestler 1971: 135-43). The actual subject of his work, however, was the causal efficacy of collective objects, or what he called “series,” which his exhaustive collection and taxonomy of “coincidences” were intended only to illustrate. As noted above, however, downward causation is inseparable from antireductionism, and so we find Peirce repeatedly denying that this “influence of such greater persons” is in any way mechanical. Peirce discusses this in terms of the emergence of novelty itself:

Were things simpler, was variety less in the original nebula from which the solar system is supposed to have grown than it is now when the land and sea swarms with animal and vegetable forms with their intricate anatomies and still more wonderful economies? It would seem as if there were an increase in variety, would it not? And yet mechanical law, which the scientific infallibilist tells us is the only agency of nature, mechanical law can never produce diversification. That is a mathematical truth – a proposition of analytical mechanics; and anybody can see without any algebraical apparatus that mechanical law out of like antecedents can only produce like consequents. It is the very idea of law. So if observed facts point to real growth, they point to another agency, to spontaneity for which infallibilism provides no pigeon-hole

.(c; 1897: CP 1.174)

Expressed in today’s terminology, Peirce is here denying the principle of the causal closure of the physical, thus paying the price necessary for securing causal efficacy for higher-level properties (Brüntrup 1998). This solution, however, would seem to entail a Cartesian substance dualism of mind and matter which Peirce elsewhere categorically excludes as a violation of synechism (c. 1892: CP 7.570). What, then, is this other
 11 “agency” that accounts for emergence? Peirce’s solution, evident throughout his system, is “habit.”

2. Habit

12 Aristotle, with his concept of ἕξις, established the place of habit in the history of philosophy (Nöth 2016: 38). The Scholastics used the Latin word *habitus* to translate Aristotle’s Greek because ἕξις is a form of ἔχω, the Latin equivalent of which is *habeo* (“to have”), hence the usual English translation “habit” (Viola 2014: 121). However, the English word “state” better captures the nuances of the Greek. In chemistry, a substance can be in a liquid state. In psychology, a person can be in a certain state of

mind. In society, one is said to be in a certain state of life or, in terms of reputation, to have achieved a certain stature. In law we have states and estates, and in politics we have statesmen and affairs of state. Physicists speak of state variables. Computer scientists speak of finite state machines and stateful protocols. The Septuagint uses ἔξις at 1 Samuel 16:7 and Daniel 7:28 to translate Hebrew words that can connote the dignity, majesty or splendor of occasions such as state visits, state dinners and state funerals. The word ἔξις therefore connotes the idea of what persists or has a history, as opposed to the ephemeral, and joins to this the idea of appearance or, in Latin, *species*.

- 13 Peirce's idea of habit captures these nuances and more. In his system, habit is nothing less than Thirdness itself, his "guess of the secret of the sphynx" (1887-1888: CP 1.410; W 6.208) and what he "considered to be his most important innovation" (White 2015: 70). "Chance is First, Law is Second, the tendency to take habits is Third. Mind is First, Matter is Second, Evolution is Third" (Peirce 1891: 175; CP 6.32; W 8.110). Habit in Peirce's system is nothing less than the origin of the universe:

Our conceptions of the first stages of the development, before time yet existed, must be as vague and figurative as the expressions of the first chapter of Genesis. Out of the womb of indeterminacy we must say that there would have come something, by the principle of Firstness, which we may call a flash. Then by the principle of habit there would have been a second flash. Though time would not yet have been, this second flash was in some sense after the first, because resulting from it. Then there would have come other successions ever more and more closely connected, the habits and the tendency to take them ever strengthening themselves, until the events would have been bound together into something like a continuous flow. (1887-1888: CP 1.412; W 6.209)

- 14 Peirce's repeated claim that Thirdness, under the aspect of habit, is the non-mechanical agency responsible for the "general progress in physical nature from simple to complex forms" (Deely 2001: 635), or from chaos to cosmos, is already sufficiently documented by Peirce's own writings and by the secondary literature. What remains to be explained, however, is why modern scholarship does not, for the most part, take it seriously. Indeed, "Peirce's evolutionary cosmology or scientific metaphysics has often been presented as the 'black sheep' or 'white elephant' of his philosophy" (Tiercelin 1997: 35). The reason proposed here is twofold, both expressions of the chasm between Peirce's cultural milieu and ours. First, the word "habit" no longer bears the scientific, philosophical, and theological weight it once did. Aquinas used the term "supernatural habits" to describe Faith, Hope, and Charity, which are "the finest and greatest of spiritual gifts" (Peirce 1878: 612; CP 2.655; W 3.285), whereas "habit" now usually describes things like smoking and brushing teeth. Second, Peirce's conception of habit was unabashedly Lamarckian, a position no longer academically respectable.
- 15 To understand what the word "habit" meant to Peirce, it is best to begin by returning to his own habitual point of departure: chemistry and physics. In this context, it is observed that "all things have a tendency to take habits. For atoms and their parts, molecules and groups of molecules, and in short every conceivable real object, there is a greater probability of acting as on a former like occasion than otherwise. This tendency itself constitutes a regularity, and is continually on the increase" (1887-1880: CP 1.409; W 6.208). As the word "probability" implies, however, this repetition is not deterministic. It does not result from any physical law. "The law of habit exhibits a striking contrast to all physical laws in the character of its commands." (Peirce 1891: 169; CP 6.23; W 8.105). The law of habit is, in other words, "purely psychical" (1891:

CP 8.318), and the difference between physical and psychical laws is that the latter concerns final, or mental, causation rather than efficient, or material, causation (1902: CP 1.265).

- 16 Peirce's argument for mental causation, already mentioned in the introduction to this paper as the logical consequence of emergence, is directly related to his Lamarckism, which he saw as evolution viewed in its psychical aspect. The "transmission of acquired characters," Peirce writes, "is of the general nature of habit-taking, and this is the representative and derivative within the physiological domain of the law of mind. Its action is essentially dissimilar to that of a physical force; and that is the secret of the repugnance of such necessitarians as Weismann to admitting its existence." (Peirce 1893b: CP 6.299; W 8.192). This repugnance might also explain why it has recently been argued that Peirce's Lamarckism is "non-essential" (Robinson 2010: 239). Mistaken it may be, but "non-essential" it is not; Peirce's system succeeds or fails on the strength of its claims that acquired habits can be inherited (Peirce 1880: CP 3.157-8; W 4.163-4) and that the principle of natural selection is insufficient to account for the evolution of the universe "from difformity to uniformity" (1903: CP 6.101). Moreover, "if the reader will now kindly give himself the trouble of turning back a page or two, he will see that this account of Lamarckian evolution coincides with the general description of the action of love, to which, I suppose, he yielded his assent" (Peirce 1893b: 186-7; CP 6.300; W 8.193). One is reminded of the *consuetudo concinnat amorem* of Lucretius (4.1283): "It is habit that breeds love."

3. Memory

- 17 Peirce has rightly been identified in recent literature as part of a "third force" in Victorian intellectual life represented by the English novelist Samuel Butler (1835-1902) together with, among others, Ewald Hering (1834-1918) and Richard Semon (1859-1918) of Germany: "All these men sought to integrate psychological and biological explanation and to demonstrate that purposefulness was part of the evolutionary process. Many were thus sympathetic to the theory that came to be called neo-Lamarckism – the belief that a major cause of evolutionary progress was the striving (or intelligence) of the organisms themselves." (Pauly 1982: 162). The crucial contribution of Butler, Hering and Semon to this "third force" was their concept of "organic memory," through which Lamarckian inheritance was explained as an emergent variety of memory possessed by collectives rather than by individuals (Otis 1994: 1-40; Schacter 2001: 97-135).
- 18 "Organic memory" theories were very prominent in organized Monism. In its inaugural volume, published in 1887, *The Open Court* published Hering's seminal 30 May 1870 lecture to the Imperial Academy of Sciences in Vienna, "Über das Gedächtnis als eine allgemeine Funktion der organisierten Materie," translated into English as "On Memory as a General Function of Organized Matter." Hering's work and its reception by Haeckel are usually discussed by recent scholarship in the context of the so-called "eclipse of Darwinism" (Bowler 1983: 68-9), the historical period during which evolution itself was widely accepted but natural selection as its sole mechanism was not. Darwin himself, as recent scholarship often points out, incorporated the inheritance of acquired characteristics into his system and proposed his own theory of "pangenesis" to explain it (Otis 1994: 43-6; Harrington 1996: 89n74). Lamarckism's

definitive exclusion from the scientific consensus was the work of August Weismann (1834-1914), not Darwin, and the updated version of his “Weismann barrier” formulated by Francis Crick (1916-2004) as the “central dogma of molecular biology” blocks the way of inquiry to this day.

- 19 As mentioned in the previous section of this paper, Peirce attributed Weismann’s rejection of the inheritance of acquired characteristics not to scientific evidence, but rather to necessitarian “repugnance” toward non-physical causation. This suggests a kinship between Peirce’s thought and organized Monism, for which the main significance of “organic memory” was not biological but cosmological. In the same way that the “problems faced by Coleridge were of Newton’s making” (McLuhan 1957: 119), those faced by Peirce and the Monists were of Darwin’s making:

To my way of regarding philosophy, all this movement was perfectly good scientific procedure. For the simpler hypothesis which excluded the influence of ideas upon matter had to be tried and persevered in until it was thoroughly exploded. But I believe that now at last, at any time for the last thirty years, it has been apparent, to every man who sufficiently considered the subject, that there is a mode of influence upon external facts which cannot be resolved into mere mechanical action, so that henceforward it will be a grave error of scientific philosophy to overlook the universal presence in the phenomenon of this third category. Indeed, from the moment that the Idea of Evolution took possession of the minds of men the pure Corpuscular Philosophy together with nominalism had had their doom pronounced

.(1903: CP 5.64)

- In other words, Peirce saw in evolution the end of what Whitehead called the “bifurcation of nature” between its physical and psychical aspects (Whitehead 1920: 30). Just as Galileo’s discoveries exploded the reigning cosmological partition between the world above and the world below, so did Darwin’s discoveries explode the reigning cosmological partition between the world without and the world within.

- 20 The career of the Austrian physicist Ernst Mach (1838-1916) serves as a witness to the simultaneous rise of “organic memory” and pragmatism during Peirce’s generation, an era in which the Cartesian lines between physical and psychical realities were beginning to blur. Mach began his career as a close colleague of Fechner, the founder of psychophysics. In a letter dated 6 May 1909 to William James (1842-1910) in response to

- 21 the chapter titled “Concerning Fechner” in James’s book

A Pluralistic Universe

, Mach calls Fechner “a fatherly friend to me personally as well as in his work (Heidelberger 2004: 323). Mach also worked closely for twenty-five years in Prague with

Ewald Hering, whose above-mentioned treatise published in the inaugural volume of *The Open Court*

was the earliest authoritative statement of “organic memory” theory. In his book

Analyse der Empfindungen

, Mach credited Fechner with leading him to the questions and Hering with leading him to the solutions (Otis 1994: 12). Writing in the pages of

The Monist

, Mach explicitly recognized Peirce’s “The Architecture of Theories” for what it was: both an “organic memory” theory among others in circulation at that time and a fundamental challenge to scientific method as then understood:

This author's view of the evolution of natural laws does not strike me as so singular.

If predominance be given in our conception of the world to the spiritualistic or psychical aspect, the laws of nature may be regarded as tremendous phenomena of memory; as I attempted some years ago to set forth in a lecture of mine. The idea of their evolution is then very near at hand. Of course I do not think that for the time being we can gain much light from this view. For the present the "scientific method" in the grooves of which we have moved for three hundred years, continues to be the most fruitful. It is advisable to be very cautious in advancing beyond this

.(Mach 1891: 399-400)

Kammerer's chapter on Semon's "organic memory" theory (called the "Mneme") cites passages from other writings in which Mach maintains that memory is a collective as well as an individual faculty, and that collective "organic memory" is the primordial phenomenon of which heredity and instinct are merely aspects (Kammerer 1919: 285-6). Mach explicitly cites both Hering and Semon in one of these: "If we, with Hering, ascribe to organisms the property of adapting successively better to recurring processes, then we may recognize what is ordinarily called memory as part of a general

organic phenomenon [...] Heredity, instinct and the like may then be described as memory reaching beyond the individual. R. Semon [...] is probably the first to attempt a scientific account of the relation between heredity and memory." (Mach 1905: 47).

Kammerer traces Mach's advocacy of "organic memory" to his support for the worldview of "energetics," a cosmological commitment he shared with one of the founders of physical chemistry, Wilhelm Ostwald (1853-1932). Ostwald consequently supported "organic memory" theory as well (Kammerer 1919: 286), defining memory in his

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"in a very general way as the quality by virtue of which the repetition in organisms of a process which has taken place a number of times is preferred to new processes, because it originates more easily and proceeds more smoothly," adding that inorganic things also exhibit this property but only rarely (Ostwald 1908: §56). This obviously resembles Peirce's observation concerning habit, already cited above, that "For atoms and their parts, molecules and groups of molecules, and in short every conceivable real object, there is a greater probability of acting as on a former like occasion than otherwise." In the same work, Ostwald describes heredity in Lamarckian terms as "being but an extension of memory to the offspring, which is to be conceived as a part of the older organism" (Ostwald 1908: §58). It is no coincidence that Ostwald was a committed Monist and succeeded Haeckel in 1911 as president of the *Monistenbund* (Holt 1971: 278; Weikart 2002: 136).

4. Mind

Another manifestation of nature's preference for repetition over novelty is the tendency to create groups based on affinity. As already mentioned above, Fechner's term for such a group was the "collective object," defined in his posthumously published *Kollektivmaßlehre* ("Measuring Collectives") as "an object that consists of an unknown number of specimens that vary randomly, held together by a concept of kind or species" (Heidelberger 2004: 299-300). The closest contemporary equivalent of

Ostwald's term "memory" for this primordial quality of nature is perhaps "non-ergodicity," which is responsible for the emergence of the "universe above the level of atoms" (Kauffman 2019). This phenomenon has also been recently discovered in economics, in which memory-governed processes exhibit "path dependence" and yield "macrostructure" resulting from "a multiplicity of possible asymptotic outcomes" and are thus closely related to all "nonlinear dynamical systems of the 'dissipative' or 'autocatalytic' or 'self-organizing' type, where positive feedbacks may cause certain patterns or structures that emerge to be self-reinforcing" (Arthur, Ermoliev & Kaniovski 1994).

- 25 Under this aspect of grouping, "organic memory" may be seen clearly as the essence of Monist cosmology, uniting its dependence on the Lamarckian interpretation of evolution as a memory-governed process with its defining rejection of any ontological substance dualism between mind and matter. This cosmology may have found its most definitive formulation in the work of Peirce, which "supposes the one original law to be the recognized law of mind, the law of association, of which the laws of matter are regarded as mere special results" (c; 1893: CP 6.277). Peirce's term for the primordial tendency of nature to group phenomena by affinity was "generalization," which he equated with the action of habit:

Viewing a thing from the outside, considering its relations of action and reaction with other things, it appears as matter. Viewing it from the inside, looking at its immediate character as feeling, it appears as consciousness. These two views are combined when we remember that mechanical laws are nothing but acquired habits, like all the regularities of mind, including the tendency to take habits, itself; and that this action of habit is nothing but generalization, and generalization is nothing but the spreading of feelings. (Peirce 1892c: 20; CP 6.268; W 8.181-2)

- 26 "Feeling" is the inward aspect of what chance is the outward (Peirce 1892c: 19; CP 6.265; W 8.181). In this passage, Peirce is paraphrasing Fechner (Heidelberger 2004: 270), whose work Peirce was among the first to analyze and, in cooperation with Joseph Jastrow, introduced to the United States (Cadwallader 1975: 171, 172, 174; Heidelberger 2004: 268). Everything in Fechner's cosmology, and in Peirce's as well, for both proceed from the same psychophysical motivation, reflects the emergentist view that physical laws apply not to individual objects but to the "collective objects" that Ostwald's "memory" creates by taxonomically dividing similar individuals into *species*. The resulting parallels between Peirce and Fechner are indeed striking. If physical laws apply to groups of objects, then physical laws are indeterminate, for objects may be grouped arbitrarily. Fechner was in fact the first indeterminist (Heidelberger 2004: 296), a position later seconded by Peirce's "tychism," and Fechner's evolutionary cosmology harmonizes with Peirce's "agapism" "in part right down to the details" (*ibid.*: 268).
- 27 The early work of Friedrich Nietzsche (1844-1900) provides another illustration of the close affinity between Peirce's cosmology and Fechner's. Nietzsche was "undoubtedly" (Breazeale 1979: 36n74) influenced by Fechner's friend and colleague Karl Friedrich Zöllner (1834-1882) and, through Zöllner, by Fechner's student Ewald Hering (Emden 2005: 148-9), who has already been mentioned above as the earliest authoritative "organic memory" theorist: "The inviolability of the laws of nature surely means that sensation and memory are part of the essence of things. It is a matter of memory and sensation that when one substance comes into contact with another it decides in just *the way that it does*. At one time or another it *learned* to do so, i.e. the activities of the

substance are developed laws. But then the decision must have been made by pleasure and *displeasure*.” (Nietzsche 1872: 40). This statement strongly recalls Peirce’s “The Architecture of Theories” and “Evolutionary Love.”

- 28 Peirce’s primordial “law of association” operates in two ways. “We may note, here, in passing, that of the two generally recognized principles of association, contiguity and similarity, the former is a connection due to a power without, the latter a connection due to a power within.” (Peirce 1892b: 535; CP 6.105; W 8.136). He illustrates this distinction with examples taken from nature: “Protoplasm grows: and that not as a crystal in a supersaturated or highly concentrated solution grows, by simply attracting matter like itself. It grows by chemically transforming other substances into its own chemical kind” (1893: CP 6.283). In other words, nature groups entities “together by a concept of kind of species,” as Fechner has already pointed out above, both by bringing like and like into physical contiguity and by making the already contiguous resemble each other through imitation. The first method is what Kammerer calls the “attraction hypothesis” (Kammerer 1919: 139-65) and the second is what he calls the “imitation hypothesis” (*ibid.*: 123-38).
- 29 In his discussion of nature’s use of attraction and imitation to group objects by affinity, Kammerer mentions “chemism,” a term first used by Friedrich Wilhelm Joseph Schelling (1775-1854). Chemism “refers to the relations of affinities, a category of relatedness distinct from mechanism” and was thus an early formulation of what today is called downward causation (van Brakel 2012: 26). This calls to mind “phanerochemistry,” a cenoscopic science invented by Peirce which eventually became “semiotics” (Tursman 1989: 453). This science was based on the idea of chemical valency which Peirce considered, as did Georg Wilhelm Friedrich Hegel (1770-1831), who devoted a chapter of his *Wissenschaft der Logik* to “chemism,” among the most important ideas in the history of science (van Brakel 2012: 26). For both Peirce and Hegel, thought and nature alike are syllogistic compounds formed according to the laws of chemical affinity. The periodic table of the elements, says Peirce, “has much more pertinence to pragmatism than appears at first sight; since my researches into the logic of relatives have shown beyond all sane doubt that in one respect combinations of concepts exhibit a remarkable analogy with chemical combinations; every concept having a strict valency” (1907: CP 5.469).
- 30 Paul Kammerer, who in 1919 enjoyed the advantage of having survived Peirce by five years, was able to benefit from Einstein’s 1915 general theory of relativity when proposing his own physical interpretation of the continuity of generalization and memory. The equivalence of mass and energy means that form, which is a kind of energy (Kammerer 1919: 128), is subject to the same law of inertia which governs mass (*ibid.*: 450). Inheritance of acquired characteristics as a manifestation of organic memory (*ibid.*: 285), the phenomenon of “clumping” in random events (*ibid.*: 175-81), magnetic remanence (*ibid.*: 127), contact metamorphism (*ibid.*: 199), the increasing tendency of people over time to resemble their pets (*ibid.*: 354-5) and spouses (*ibid.*: 351-2), crowd psychology (*ibid.*: 385) and, most notoriously, “coincidences” are only a few among the very many examples adduced by Kammerer of Peirce’s “communication or extension of a Form,” comprising “evidence of a primordial habit-taking tendency” which “shows us like things acting in like ways because they are alike” (Peirce 1892c: 17; CP 6.262; W 8.179). Einstein’s theory could also explain Peirce’s primordial “law of association” between like and like (c; 1898: CP 7.515) or tendency toward

generalization, “the analogue of Gravitation in the Physical world” (1902: CP 7.375), because attraction and inertia cannot be distinguished with respect to non-inertial reference frames (Kammerer 1919: 135-6). It is worth mentioning that Einstein himself, according to Hans Przibram (1874-1944), “described Kammerer’s book as brilliant and by no means absurd” (Coen 2006: 513).

5. Form

- 31 Fechner’s “collective object,” as the Latin word *species* and its Greek equivalent εἶδος imply, means both “classification” and “form.” Recognizing this equivalence, Peirce accounts for the physical efficacy of “collective objects,” or what the present discussion has called “generalization,” in terms of “Form.” Using the word “originality” to refer to what is now called “emergence,” Peirce states that originality “is not an attribute of the *matter* of life, present in the whole only so far as it is present in the smallest parts, but is an affair of *form*, of the way in which parts none of which possess it are joined together [...] All supremacy of mind is of the nature of Form.” (Peirce 1908: 435; CP 4.611). The physical efficacy of generalizations, which Peirce calls not only “supremacy of mind” but also “semiosis,” is consequently a species of formal causality (Deely 2001: 633-4), which in Aristotle’s Greek is the causality of εἶδος. “I use the word ‘sign’ in the widest sense for any medium for the communication or extension of a Form (or feature).” (1906: EP 2.477).
- 32 Morphology, the science of form, was founded by Johann Wolfgang von Goethe (1749-1832) and formed the nucleus of Monist cosmology. The prolific Monist publicist Wilhelm Bölsche (1861-1939), an ardent proponent of both Fechner and Haeckel (Heidelberger 2004: 261), writes in his biography of the latter that Haeckel “saw in Darwin the absolute ‘open Sesame’ to all the doors of philosophic morphology” (Bölsche 1900: 173). This recalls Peirce’s statement, already cited above, that “from the moment that the Idea of Evolution took possession of the minds of men the pure Corpuscular Philosophy together with nominalism had had their doom pronounced,” for Peirce too saw morphology as the scientific fruit of Darwin’s cosmological revolution: “Everybody is familiar with the useful, though fluctuating and relative distinction of matter and form; and it is strikingly true that distinctions and classifications founded upon form are, with very rare exceptions, more important to the scientific comprehension of the behavior of things than distinctions and classifications founded upon matter.” (1907: CP 5.469).
- 33 What Peirce calls the “relative distinction of matter and form” is simply a paraphrase of the defining Monist assertion of the relative distinction between psychical and physical realities. For this reason, Fechner “fashioned the psychophysical methods on the same mathematical grounds of form” (Stephenson 1980: 15). Just as Peirce identified his “law of mind” as the tendency toward generalization, the morphologist D’Arcy Wentworth Thompson (1860-1948) identified that “which we call by Goethe’s name of Morphology” as the science of generalization: “the form of the earth, of a raindrop or a rainbow, the shape of the hanging chain, or the path of a stone thrown up into the air, may all be described, however inadequately, in common words; but when we have learned to comprehend and to define the sphere, the catenary, or the parabola, we have made a wonderful and perhaps a manifold advance.” (Thompson 1917: 719). He

ends the discussion and the book with a footnote crediting Fechner's own paper on the mathematical treatment of organic forms and processes (1849) with capturing "the gist of the whole matter" (Thompson 1917: 777).

34 The relationship between "organic memory" and morphology was stated as follows by Paul Carus, identified above as the editor of

The Monist:

"Memory is no mysterious power; it is the preservation of form in feeling organisms." (Carus 1890: 73). Whereas Haeckel had come to Monism through the concept of organic form, Carus came to Monism through the concept of mathematical form as conceived in the

Formenlehre of Hermann Grassmann

, under whom Carus had studied in the Gymnasium at Stettin (Hay 1956: 505). This "general science of form" arises from a synthetic geometry based on directions, which are natural, as opposed to a Cartesian analytic geometry based on dimensions, which are conventional. For Carus, this made possible a new science of generalization very similar to Thompson's: "Partial knowledge may lead us to think the world is diverse and disjointed, but a more generalized mathematics leads us to recognize that there are forms in the world which belong to everything." (

Ibid.: 506). Even more fundamental for Carus's Monism, however, was

Grassmann's implication that the laws of thought and the laws of nature are one:

Kant had faltered, Carus believed, because he had not realized that form was not only a quality of mind but of all reality. There was a strict correspondence between knowledge and the external world because "all elements of objective reality are inseparably united with the corresponding elements of subjective reality." Because our minds and the external world had the same formal structure, we could employ what Carus called "purely formal" reasoning, beginning with positive facts and proceeding according to the rules of logic, and be assured of correct results. (Meyer 1962: 600-1)

35 Carus phrased this same observation elsewhere in a passage which Peirce cites as expressing the true meaning of Monism: "Subjectivity must be conceived as the product of a cooperation of certain elements which are present in the objective world" (1890: W 8.43). This blurring of subjective and objective realities was frequently acknowledged by Peirce himself as the very basis of pragmatism, observing that "man's mind has a natural adaptation to imagining correct theories of some kinds, and in particular to correct theories about forces, without some glimmer of which he could not form social ties and consequently could not reproduce his kind" (1903: CP 5.591). As discussed above, the distinction between mind and matter is only relative because both are expressions of the "law of mind," or nature's primordial tendency toward generalization. "Generalization, the spilling out of continuous systems, in thought, in sentiment, in deed, is the true end of life" (NEM 4.346), and generalization's fullest scientific expression is morphology. It is not coincidental that Whitehead, "whose first book, *Universal Algebra* is as he says in his Introduction, largely devoted to a reworking of Grassmann" (Hay 1956: 506), was still writing decades later: "The secret of progress is the speculative interest in abstract schemes of morphology." (Whitehead 1929: 58).

6. Generals

36 Which side Peirce chose in the ancient dispute between nominalism and realism is well-known: “I am myself a scholastic realist of a somewhat extreme stripe.” (1907: CP 5.470). He saw this dispute as a fight to the death and would not tolerate the lukewarm, writing that “a man as he gradually comes to feel the profound hostility of the two tendencies will, if he is not less than a man, become engaged with one or the other and can no more obey both than he can serve God and Mammon” (1871: CP 8.38; W 2.486).

37 As previous sections of this paper have observed, Peirce repeatedly expresses his insistence on the reality of generals using arguments that we recognize today as strong emergentism. E

emergent properties, irreducibility, downward causation, and antireductionism may be viewed as corollaries of the anti-nominalist worldview which considers generals to be just as real, if not more so, than the individuals which comprise them and which therefore attributes to them properties, laws, and causal efficacy irreducible to lower levels of generalization. The later sections of this paper observed how Peirce not only insisted on the reality of generals but also their life and growth, following a primordial “law of mind” according to which generals are progressively absorbed into higher levels of generalization. Generalization, as observed previously, is an indispensable ingredient of reality itself, “for mere individual existence or actuality without any regularity whatever is a nullity. Chaos is pure nothing.” (Peirce 1905: 178; CP 5.431).

Why, then, has “all modern philosophy of every sect has been nominalistic” (1903: CP 1.19), even though “after physical science has discovered so many general principles in Nature, nominalism becomes a disgraceful habit of thought” (1906: CP 6.175)? The answer has to do with realism’s dependence on “organic memory” and its close relation, imagination. The early Nietzsche, already quoted above, will serve again to illustrate the views of Fechner and Hering, so fundamental to Monist cosmology, that he absorbed through his reading of Zöllner: “All explaining and knowing is actually nothing but categorizing [...] The primal procedure is to seek out some likeness
38 between one thing and another, to identify like with like.

Memory lives by means of this activity and practices it continually. *Confusion* is the primal phenomenon.” (Nietzsche 1872: 53, 54).

39 With the word “confusion,” Nietzsche identifies the mystery at the heart of any generalization: its partial indeterminacy (c; 1896: CP 1.434). “Every concept originates through our equating what is unequal.” (Nietzsche 1873: 80). We arrive at the generalization “leaf” only by overlooking the ways in which the entities we include within that classification differ from one another. A generalization is therefore an image, for it is “the nature of an image to be in something different from itself.” (Plotinus: III. vi. 14). “All categorization is an attempt to arrive at images.” (Nietzsche 1872: 21). The mind sees a unity-in-difference not through its logical powers, but rather through the metaphorical exercise of its powers of imagination and memory (Verene 1981: 41). This is the reason for nominalist iconoclasm. The power of generalization, Nietzsche writes, is “an anti-scientific power, because it does not have the same degree of interest in everything that is perceived” (Nietzsche 1872: 21).

40 The allure of nominalism is thus the comfort of “exact science” and the privileged role it grants to the observer, whom it allows to stand outside of nature as an innocent

bystander. Nominalism is a form of sleep that dreams, fallibility, confusion, and conscience cannot disturb. Even more alluring, however, is that nominalism, unlike realism, does not require faith. That general “have life, generative life” is “a matter of experiential fact. But whether it is so or not is not a question to be settled by producing a microscope or telescope or any recondite observations of any kind. Its evidence stares us all in the face every hour of our lives. Nor is any ingenious reasoning needed to make it plain. If one does not see it, it is for the same reason that some men have not a sense of sin; and there is nothing for it but to be born again and become as a little child. If you do not see it, you have to look upon the world with new eyes.” (1902: CP 1.219).

7. Religion

- 41 The second of Peirce’s two New Testament references cited in the previous section, “one must become as a little child” (Matthew 18:3), is echoed by his eulogy upon the death of Francis Ellingwood Abbot (1836-1903), a member of the Metaphysical Club and the first American philosopher to support Darwin (Peden 1994: 285): “He had that spiritual insight into philosophy that Wordsworth attributes to the child.” To this high praise he adds another New Testament reference (Matthew 5:8):

One of the benefits of an acquaintance with Dr. Abbot was that it gave a new conception of the saying, “The pure in heart shall see God.” The unsophisticated purity of his love of and apprehension of the truth, oblivious of the tide of opinion, was a quality without which the Introduction to his “Scientific Theism,” wherein he put his finger unerringly (as the present writer thinks) upon the one great blunder of all modern philosophy, could not have been written. (Peirce 1903: 306)

- 42 This is another way of saying that the faith upon which rests the ability to “see” generals is the basis of science, for Abbot’s achievement in his “Introduction” to *Scientific Theism* (1885) was to show “that science has always been at heart realistic, and always must be so; and upon comparing his writings with mine, it is easily seen that these features of nominalism which I pointed out in science are merely superficial and transient” (1903: CP 1.20; cf. CP 4.1). The impossibility of a science based on nominalism, which denies generals as well as the faith required to “see” them, was perfectly evident to Abbot: “Since genera and species are classifications of things based on their supposed resemblances and differences, the denial of all objective reality to genera and species is the denial of all objective reality to the supposed resemblances and differences of things themselves; the denial of all knowledge of the relations of objects is the denial of all knowledge of the objects related; and this denial is tantamount to the assertion that things-in-themselves are utterly unknown.” (Abbot 1885: 3-4).
- 43 The goal of organized Monism was the reconciliation of religion and science. The implied purpose of Haeckel’s “Monistic Religion” was “to justify nonempirical procedures in science so important to Haeckel’s scientific views, particularly his interpretations of Darwinism and the implications of Darwinism. The Monistic Religion was to be, for Haeckel, a logical aid when empiricism failed.” (Holt 1971: 277). Haeckel’s crusade was joined by Paul Carus, editor of *The Open Court*, every copy of which had the slogan “Devoted to the Religion of Science” printed in its masthead:

Professor Haeckel recognises as the highest duty of our time (*das höchste Ziel unserer Geistesthätigkeit*) the amalgamation of religion and science in the sense proposed by *The Open Court*, the efforts of which journal he especially mentions in his preface. In

a private letter he adds that the differences that obtain between his views and those editorially presented in *The Open Court* appear to him of secondary importance only, and should not hinder us from fighting shoulder to shoulder. We gladly agree with him, and hail him as a companion-in-arms. (Carus 1893: 3529)

- 44 Peirce, a frequent contributor to *The Open Court* as well as to *The Monist*, was also “Devoted to the Religion of Science”: “I have said enough, I think, to show that, though synechism is not religion, but, on the contrary, is a purely scientific philosophy, yet should it become generally accepted, as I confidently anticipate, it may play a part in the onement of religion and Science.” (c; 1892: CP 7.578). This may be explained, similarly to those aspects of Peirce’s thought discussed in previous sections of this paper, as a corollary of Peirce’s attribution not only of reality, but of personality, to generals. The recognition of “greater persons” implied by synechism necessarily entails theism to the extent that it presented him with a difficulty:

A difficulty which confronts the synechistic philosophy is this. In considering personality, that philosophy is forced to accept the doctrine of a personal God; but in considering communication, it cannot but admit that if there is a personal God, we must have a direct perception of that person and indeed be in personal communication with him. Now, if that be the case, the question arises how it is possible that the existence of this being should ever have been doubted by anybody. The only answer that I can at present make is that facts that stand before our face and eyes and stare us in the face are far from being, in all cases, the ones most easily discerned. That has been remarked from time immemorial. (Peirce 1892b: 558-9; CP 6.162; W 8.156-7)

- 45 The general character of the object of worship also extends to worship itself, because “religion cannot reside in its totality in a single individual. Like every species of reality, it is essentially a social, a public affair. It is the idea of a whole church, welding all its members together in one organic, systemic perception of the Glory of the Highest – an idea having a growth from generation to generation and claiming a supremacy in the determination of all conduct, private and public” (Peirce 1893a: 3559; CP 6.429). The supremacy of the general over the individual also extends to the individual’s religious calling: “A man is capable of having assigned to him a rôle in the drama of creation, and so far as he loses himself in that role, – no matter how humble it may be, – so far he identifies himself with its Author.” (c; 1892: CP 7.572). Peirce’s opposition to necessitarianism has religious implications as well: “In short, necessitarianism once out of the way, which puts nature under the rule of blind and inexorable law, that leaves no room for any other influence, we find no other serious objection to a return to the principle of Christianity.” (W 8.126).

8. Pragmatism

- 46 The argument of this paper began with emergence and now ends with pragmatism. When viewed from the vantage point of the late 19th century Monist and related movements, such as Abbot’s, for “free religion” which emerged in Darwin’s wake and comprised the historical background from which it emerged, pragmatism may be seen to be what religions both “free” and established have always defined as faith: “thinking with assent.” Pragmatism, in other words, is thought which assents to what no sane person denies, which is the evidence of things seen as well as unseen. “What the true definition of Pragmatism may be, I find it very hard to say; but in my nature it is a sort of instinctive attraction for living facts.” (1903: CP 5.64). The most living and evident of

facts is that the non-atomic things constantly present to our senses, head, and heart really do exist, regardless of what we think about them. “Now whoever cares to know what pragmatism is should understand that on its metaphysical side it is an attempt to solve the problem: In what way can a general be unaffected by any thought about it?” (c; 1905: CP 5.503).

- 47 As discussed in the previous section, Haeckel founded Monism upon the realization that Darwinism had made it necessary to justify non-empirical procedures in science. The “Monist Religion” was intended to provide a logical aid when empiricism failed. Peirce too learned this lesson in the context of “free religion,” writing of the author of *Scientific Theism*, co-founder of the Free Religious Association and fellow contributor to *The Monist* (Abbot 1895): “F. E. Abbot, one of the strongest thinkers I ever encountered, first showed me that there were just three [worlds]; the outer, the inner, and the logical world.” (1902: CP 8.299). Pragmatism is the logical world that bridges the outer and the inner, and thus spans the nominalist discontinuity between empiricism and idealism. As Peirce points out, however, “the rivulets at the head of the river of pragmatism are easily traced back to almost any desired antiquity” (c; 1906: CP 5.11). Ernst Mach too emphasizes the venerability of the approach that bridges empirical and non-empirical procedures in a passage Kammerer used as an epigraph to his above-mentioned chapter on the “attraction hypothesis” (Kammerer 1919: 139): “Purely experimental inquiry, moreover, does not exist, for, as Gauss says, virtually we always experiment with our thoughts. And it is precisely that constant, corrective interchange or intimate union of experiment and deduction, as it was cultivated by Galileo in his *Dialogues* and by Newton in his *Optics*, that is the foundation of the benign fruitfulness of modern scientific inquiry as contrasted with that of antiquity, where observation and reflexion oftentimes pursued their respective courses like two strangers.” (Mach 1903: 302).
- 48 Viewing pragmatism in its historical context, namely the first episode in the reception of Darwin, also allows us to understand this “corrective interchange” as dialectical realism. Peirce formulates the “essential proposition of pragmatism” as the logical dual to the neo-Scholastic *Dictum de omni* (Peirce 1905: 179-80; CP 5.435), which nominalists consider a tautology but which realists consider “a fundamental law of the universe” that expresses “the intercommunity of nature” (Mill 1843: 1:234-5). With respect to pragmatism’s dialectical aspect, Peirce asserts that pragmatism “belongs essentially to the triadic class of philosophical doctrines, and is much more essentially so than Hegelianism is” (Peirce 1905: 181; CP 5.436). Recognizing its dialectical nature helps to avoid the misconception that pragmatism “understands knowing the world as inseparable from agency within it” (Legg & Hookway 2019), a misconception Peirce himself tried to clarify: “Accordingly, the pragmatist does not make the *summum bonum* to consist in action, but makes it to consist in that process of evolution whereby the existent comes more and more to embody those generals which were just now said to be destined, which is what we strive to express in calling them *reasonable*. In its higher stages, evolution takes place more and more largely through self-control, and this gives the pragmatist a sort of justification for making the rational purport to be general.” (Peirce 1905: 178; CP 5.433).

Conclusion

- 49 This paper has argued that a clue to the relationship between emergence and pragmatism may be found in the historical environment in which Peirce's mature system developed, especially in the international Monist and related movements for "free" or "scientific" religion which emerged as part of the early reception of Darwinism. This clue is the family of "organic memory" theories, strongly associated with Monism, which proposed that perception, cognition, instinct, habit, inheritance and evolution are all manifestations of a primordial law which associates individuals into groups by affinity. Emergence comprises the properties, laws and causal efficacy of these groups, which are not reducible to those of the individuals which comprise them. Habit exhibits this grouping under the aspect of repetition. From repetition comes memory, and from memory comes mind. The measure of mind is form, mediated by signs. As mind moves through opposite powers of the sign (Verene 1981: 212), the similar, by attraction, become contiguous and the contiguous, by imitation, become similar, forming generals. From the progressive assimilation of generals into ever greater generals comes awareness of "greater persons," and from conversation with these "greater persons" comes religion, and from religion comes pragmatism, which Peirce at the end seemed to know simply as another name for piety:

Direct endeavor can achieve almost nothing. It is as easy by taking thought to add a cubit to one

s stature as it is to produce an idea acceptable to any of the Muses by merely straining for it before it is ready to come. We haunt in vain the sacred well and throne of Mnemosyne; the deeper workings of the spirit take place in their own slow way, without our connivance. Let but their bugle sound, and we may then make our effort, sure of an oblation for the altar of whatsoever divinity its savor gratifies

.(Peirce 1893b: 187; CP 6.301; W 8.193)

- 50 Peirce usually described the mystery, however, in more technical terms which indicate how science may someday discard its nominalist fetters: "The *general* might be defined as that to which the principle of excluded middle does not apply." (c; 1905: CP 5.505). Precisely by means of discarding the principle of the excluded middle, recent research has done much to free first-order logic from being "a nominalist enterprise" (Hintikka 1996: 7, 133) and thus to establish "a form of scientific realism in which relations are as fundamental as entities" (Brenner 2012). "Organic memory" was recovered in this quest by the cybernetician Raymond Ruyer (1902-1987) in work that was warmly acknowledged by Stéphane Lupasco (1900-1988), whose logic of the "included middle" is currently being developed by both Brenner and Basarab Nicolescu (Lupasco 1948; Ruyer 1952; Nicolescu 2014). Friedrich S. Rothschild (1899-1995), who coined the term "biosemiotics" (Favareau 2010: 430), also acknowledged Ruyer's work (Rothschild 1994). However, the role of "organic memory" as the link between emergence, pragmatism, and realism was clear long before Peirce. The pragmatic principle that our minds and the external world have the same formal structure was anticipated by the "New Science" of Giambattista Vico (1668-1744), whose kinship with Peirce has long been discerned (Fisch 1969: 201). "Vico's most important principle: 'Doctrines must take their beginning from that of the matters of which they treat,' requires that memory be the basis of science." (Verene 1981: 108).

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ABSTRACTS

Peirce's system may be identified as one of a family of "organic memory" theories which flourished during the period in which he developed it, especially in the Monist journals which published much of his late work. "Organic memory" theories were vigorously opposed in their own day and are remembered in our own, if at all, only in connection with discredited theories such as racial memory and Lamarckian inheritance. When read in the context of their own time, however, "organic memory" theories stand revealed as among modernity's first attempts at a still-unrealized, post-nominalist re-foundation of science. Being thus closely related to Peirce's own project both in time and in spirit, they deserve to be understood on their own terms. The synthesis of these theories in the book

Das Gesetz der Serie

(1919) by the Austrian biologist Paul Kammerer (1880-1926), a prominent representative of organized Monism's European branch, provides insight into the systematic unity of the various aspects of Peirce's thought, especially the close relationship between pragmatism and what is now called "emergence."

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Patternhood and Generality

A Peircean Approach to Emergence

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AUTHOR'S NOTE

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Get rid, thoughtful Reader, of the Ockhamistic
prejudice of political partizanship that in
thought, in being, and in development the
indefinite is due to a degeneration from a primal
state of perfect definiteness.
Charles S. Peirce, "Some Amazing Mazes, Fourth
Curiosity"

Introduction

- 1 A distinction often drawn in the literature on emergence is that between *epistemological emergence* and *ontological emergence*.¹ Epistemological emergence is a kind of emergence that is only in the eyes of the beholder. An epistemologically emergent phenomenon is one that can in principle be reduced to – predicted or derived from – its underlying elements or processes, but is in practice unpredictable or underivable from these elements or processes due to its complexity and the epistemic limitations on the part of the observer (limitations in computational resources, knowledge about initial conditions, etc.). An ontologically emergent phenomenon, on the other hand, is one that is unpredictable or underivable from its underlying elements or processes even in

principle. Epistemological emergence seems to be the conception of emergence most widely accepted among philosophers and scientists, whereas it remains controversial whether there are any instances of ontological emergence in the actual world.

- 2 Suppose there is no ontological emergence, and that every instance of emergence in the world is epistemological. Combined with the assumption that every emergent feature in the world ultimately emerges from the entities and laws of fundamental physics, this implies that every emergent feature in the world can in principle be reduced to the entities and laws of fundamental physics, even if reference to emergent phenomena is indispensable in practice. Let us call this view *ontological reductionism*. Although widely endorsed by philosophers and scientists, I find this view problematic.² Let me explain why by citing a thought experiment put forth by Daniel Dennett.
- 3 In his essay “True Believers,” Dennett asks us to imagine that beings of vastly superior intelligence, say Martians, descend upon us (Dennett 1987: 25). Suppose, he says, that they are “Laplacean super-physicists, capable of comprehending the activity on Wall Street, for instance, at the microphysical level. Where we see brokers and buildings and sell orders and bids, they see vast congeries of subatomic particles milling about” (*ibid.*). According to the ontological reductionist, these Martians would know everything there is to know about the world. However, Dennett points out that even if the Martians were able to comprehend and accurately predict everything that happens on Wall Street using their Laplacean methods, they would be missing something perfectly real if they did not also see us as intentional beings, that is, if they did not also see the *patterns* in human behavior that we describe in intentional terms, such as *believing that p* or *desiring q*. As he puts it:

Take a particular instance in which the Martians observe a stockbroker deciding to place an order for 500 shares of General Motors. They predict the exact motions of his fingers as he dials the phone and the exact vibrations of his vocal cords as he intones his order. But if the Martians do not see that indefinitely many *different* patterns of finger motions and vocal cord vibrations – even the motions of indefinitely many different individuals – could have been substituted for the actual particulars without perturbing the subsequent operation of the market, then they have failed to see a real pattern in the world they are observing. (*Ibid.*: 26)
- 4 Although Dennett’s argument is couched in terms of intentional patterns, the same argument can also be made with respect to any pattern outside the purview of fundamental physics – the Martians would be just as blind to fingers and vocal cords as they are to the intentional behavior of humans. This is a powerful thought experiment that shows us the inadequacy of ontological reductionism. It is inadequate because it fails to recognize that there is more to reality than what can be described at the level of fundamental physics. The patterns that we observe at everyday scales, as well as those studied by the various special sciences, are not mere epistemic crutches that can be dispensed with by hypothetical Laplacean super-physicists; they are just as real and fundamental as the patterns studied by fundamental physics.
- 5 Now if we are to deny ontological reductionism, it seems we ought to embrace the existence of ontological emergence.³ However, the view that there are instances of ontological emergence in the world – which I will hereinafter call *radical emergentism* – is also problematic. The problem is that an ontologically emergent phenomenon is by definition utterly inexplicable, in the sense that there is absolutely nothing about the underlying elements or processes by virtue of which it should emerge, and should have the features that it has. It is, in a word, sheer magic: it simply pops into existence

without any why or wherefore. But to use a Peircean turn of phrase, to posit something utterly inexplicable is to set up a roadblock to inquiry. The synechistic philosophy demands that we do not introduce such brute discontinuities into the fabric of being.

- 6 Galen Strawson has gone further and argued that the notion of ontological emergence (which he calls “brute emergence”) is incoherent:

If it is really true that Y is emergent from X then it must be the case that Y is in some sense wholly dependent on X and X alone, so that all features of Y trace intelligibly back to X (where ‘intelligible’ is a metaphysical rather than an epistemic notion). *Emergence can’t be brute*. It is built into the heart of the notion of emergence that emergence cannot be brute in the sense of there being absolutely no reason in the nature of things why the emerging thing is as it is (so that it is unintelligible even to God). For any feature Y of anything that is correctly considered to be emergent from X, there must be something about X and X alone in virtue of which Y emerges, and which is sufficient for Y. (Strawson 2006: 18)

- 7 If both ontological reductionism and radical emergentism are untenable, then it seems we are at an impasse. I suggest that the problem lies in the assumption that epistemological emergence and ontological emergence exhaust all conceivable forms of emergence. If there is a further, third form of emergence, then denying the existence of ontological emergence will not entail that every instance of emergence is epistemological. My task in this paper will be to outline such a third form of emergence, inspired by the philosophical ideas of Charles S. Peirce as well as those of Dennett, that will enable us to steer a path between the Scylla of ontological reductionism and the Charybdis of radical emergentism. Since what emerges in this form of emergence is a *real pattern* (where the precise sense of “real” will be clarified later), I will simply call this form of emergence *real pattern emergence*, or *RP emergence* for short.⁴
- 8 A defining characteristic of a pattern is that it is more *general* than the elements or processes that instantiate it. By this I mean that the same pattern can be instantiated by different individual elements or processes. A melody played on the piano, for example, will retain its identity even if each of its individual notes is raised or lowered an octave. The generality of patterns makes them perfect candidates for applying Peirce’s rich theory of generals (more commonly known as *universals*), including his pragmatism and Scholastic realism. What I want to explore in this paper are the implications that such an application will have for our understanding of emergence.
- 9 This paper is organized as follows. I begin in the first section with some preliminary observations on the notion of “levels,” often presupposed in discussions of reduction and emergence, and offer my reasons for avoiding talk of levels. In the second section, drawing on Dennett’s theory of real patterns (Dennett 1991), I will introduce the distinction between *real patterns* and *non-real patterns*, and I will further argue that patterns are generals. This will set the stage for our study of Peirce’s theory of generality – specifically, his modal analysis of generality – in the third section. The central point I want to make here is that a real pattern is what Peirce calls a *real general* (or *real Third*), and like a real general, it is autonomous from the elements or processes instantiating it, because it supports predictions about not only what *will* happen in a given situation, but also what *would* happen in an indefinite variety of possible micro situations that are not actualized. This autonomy of real patterns will be the key feature that sets RP emergence apart from mere epistemological emergence, without, on the other hand, collapsing it into ontological emergence. Finally, in the fourth

section I will try to throw what I call RP emergence into sharper relief by comparing it with Mark Bedau's related notion of *weak emergence* (Bedau 1997, 2002).

1. Levels

- 10 The notion that nature is organized in a hierarchical structure of “levels” is deeply embedded in discussions of emergence. One often speaks, for example, of “higher-level” entities possessing properties lacked by “lower-level” entities. However, it is by no means evident what levels are – are they objective features of nature, or do they somehow reflect the way we choose to describe nature? – or whether there are such things as levels at all. Indeed, James Ladyman and Don Ross have denied the existence of levels, arguing that talk of “levels” is a metaphor to which contemporary science gives no interesting content (Ladyman & Ross 2007: 53-7). Despite the elusiveness of the levels concept, most discussions of emergence in the philosophical literature simply assume that there are such things as levels, without addressing the issue of what they are and whether they actually exist.⁵ It therefore behooves us to undertake a preliminary examination of the notion of levels before delving into our discussion of emergence.
- 11 While I share Ladyman and Ross's skepticism regarding the notion of levels, it seems to me that their denial of the existence of levels needs to be qualified in at least two respects. In the first place, the relative strength and range of the four fundamental forces (the strong force, electromagnetic force, weak force, and gravity), together with the kinds of matter upon which they act, give rise to a separation of three “natural” levels or regimes, which I shall call the *subatomic regime*, *electromagnetic regime*, and *gravitational regime*.⁶ Both the electromagnetic and gravitational forces have an infinite range and act on all size scales, but the electromagnetic force only acts on electrically charged matter, while gravity acts on every object in spacetime. Furthermore, in large objects the positive and negative electric charges tend to cancel each other out, making the object as a whole electrically neutral. This is why the influence of gravity tends to dominate at large scales, such as the scale of stars and galaxies. On the other hand, the electromagnetic force is much stronger than gravity, and so it tends to dominate at smaller scales, such as the scale of atoms, molecules, and what we regard as medium-sized objects. This is how the separation between the electromagnetic regime, dominated by the electromagnetic force, and the gravitational regime, dominated by gravity, arises. The boundary between these two regimes is by no means sharp, as is evinced by the fact that we experience the effects of both the electromagnetic force and gravity at everyday scales. The separation of the subatomic and electromagnetic regimes likewise arises from the fact that the influence of the weak and strong forces is confined to very small distances (of the order of 10^{-15} m, roughly the size of an atomic nucleus).
- 12 Thus, contrary to Ladyman and Ross's claim that levels do not exist, there are at least three levels or regimes in nature corresponding to three different size scales. However, levels identified solely in terms of size do not provide a sufficient basis for discussions of emergence. Some examples of emergence often discussed in the literature are the emergence of life from chemical processes, the emergence of mental phenomena from neural processes, and the emergence of social behavior patterns (such as crowd behavior) from interactions between individual humans. The problem is that there are

no size scales that uniquely characterize organisms, mental phenomena, or social behavior patterns, and hence if these are to be identified as levels, this identification cannot be made solely in terms of size. As pointed out by William Wimsatt (1994: 236), a bacterium could have the same size as a black hole, but we would hardly consider the two as belonging to the same level, as they would behave in radically different ways in similar circumstances. As for mental phenomena and social behavior patterns, it is not even clear whether these could have sizes at all.

- 13 Evidently, size cannot be the sole factor in terms of which we identify levels. But there are other factors that enable us to do so, and this brings us to the second respect in which Ladyman and Ross's rejection of levels needs to be qualified. Consider, for example, the level of individual organisms. How do we identify this as a distinct level? I suggest that it is by focusing on a cluster of recurrent *patterns* or regularities that we observe in nature, such as reproduction, metabolism, and homeostasis. The level of individual organisms can be regarded as "higher" than the level of chemical processes because these patterns are lacking at the chemical level. In general, we can say that identifying a level involves picking out a set of patterns from the phenomena we observe in nature, and that a given level *A* is "higher" than another level *B* if the patterns in terms of which we identify *A* are lacking in *B*. This implies that what we identify as levels (apart from the three regimes mentioned above) depends to some extent on what patterns we detect and choose to focus on. Ladyman and Ross's rejection of levels has thus been qualified in two respects: in the first place, there are at least three regimes in nature corresponding to three different size scales; and in the second place, while it may be true that levels other than these three regimes do not exist apart from pattern-detecting agents, we can nonetheless speak intelligibly of these levels as long as we keep in mind their observer-dependent character.
- 14 Despite all of this, in this paper I will avoid talk of levels and speak instead of emergent patterns and their underlying elements and processes. The main reason for this is that the language of levels tends to give the impression that there is a fixed hierarchy of levels that somehow exists independently of the act of detecting and picking out the patterns that characterize them. This, however, is not the case: as I argued above, it is the act of detecting and picking out a certain set of patterns that gives rise to a distinct level; the level does not exist independently of this act. This is closely related to a point made by Paul Humphreys. A basic distinction between types of emergence (orthogonal to the epistemological/ontological distinction) is that between *synchronic emergence* and *diachronic emergence* (Humphreys 2008, 2016). In synchronic emergence, the emergent phenomenon is considered to exist simultaneously with its substrate, as when mental phenomena are considered to emerge from neural processes. In diachronic emergence, on the other hand, the emergent phenomenon is considered to develop over time from prior states of a system, as when complex patterns are generated in cellular automata. Humphreys argues that contemporary discussions of emergence in the philosophical literature have been overly focused on synchronic emergence (perhaps due to the circumstance that most philosophical discussions of emergence have taken place in the context of the philosophy of mind) and have neglected diachronic forms of emergence (Humphreys 2016). The notion of levels is one manifestation of this overemphasis of synchronic emergence, for as Humphreys points out, "the levels imagery is shot through with synchronic concepts" (*ibid.*: 121). The levels framework is ill-suited to dealing with diachronic emergence. Again, the problem is that the language of levels tends to suggest that the "higher" level exists independently of the act of detecting and

picking out the patterns that characterize it, whereas in diachronic emergence, where the emergent patterns come into being over time, it hardly makes any sense to say that there is a “higher level” when the patterns that allow us to identify it have not yet emerged. For these reasons I believe that the levels concept tends to distort rather than facilitate our understanding of emergence, and so I will avoid speaking of levels in this paper, except when presenting the views of other authors who use the concept.

15 With these preliminaries in place, let us turn to our main topic, RP emergence.

2. Real Patterns

16 My task in this section will be twofold: first, to specify what it means for a pattern to be *real*, and second, to show that patterns are *general* in the sense of being instantiable by different individual elements or processes.

2.1 Algorithmic Compressibility

17 To begin with, it will be useful to have a definition of the key term *pattern*. Here I will be relying on the theory of real patterns proposed by Dennett in his paper “Real Patterns” (Dennett 1991). In the most general terms, a pattern is a regularity in some data, where *data* is construed in the broadest possible sense as something that is observed or may be observed. Consider, for example, an endless random string of 0’s and 1’s. There is no regularity in this data. On the other hand, consider an endless string of alternating 0’s and 1’s: 010101010... etc. What we should notice is that this data can be compressed into a program that commands: “generate an endless string of alternating 0’s and 1’s.” There is no way of compressing the random string of 0’s and 1’s – the only way this data can be transmitted to another person is to send the *bit map*, which identifies each digit *seriatim* (the first place value is 0, the second place value is 0, the third place value is 1, etc.). In more general terms, a bit map is a zero-compression encoding, where each bit of information in the initial data is mapped one-to-one to a distinct bit in the encoding.

18 Gregory Chaitin, one of the founders of algorithmic information theory, gives the following definition of *randomness*: “A series of numbers is random if the smallest algorithm capable of specifying it to a computer has about the same number of bits of information as the series itself.” (Chaitin 1975: 48). Reversing this idea, Dennett proposes the following criterion for the presence of a pattern: “A pattern exists in some data – is real – if there is a description of the data that is more efficient than the bit map, whether or not anyone can concoct it.” (Dennett 1991: 34). That is, there is a pattern in some data if there is an algorithm that reproduces the data using a smaller number of bits than the data itself (when there is such an algorithm, we say that the data is *algorithmically compressible*).⁷

19 An interesting aspect of pattern recognition is that not all observers are able to discern the same pattern in the same data, and even the same observer may discern different patterns in the same data on different occasions. The famous duck-rabbit illusion is a prime example of the latter. As an example of the former, suppose that an image file – say a jpg image of a human face – is translated into binary notation, pixel by pixel. The pattern is still there, but it would be impossible for the human eye to discern it visually. Other creatures with different sense organs may readily perceive patterns that are imperceptible to us (Dennett 1991: 34). Hence Dennett’s proviso that the presence of a

pattern should not depend on whether or not anyone is actually able to concoct a compression algorithm: there is a pattern in some data if the data is *in principle* compressible by a potential observer.

2.2 Predictive Power

- 20 Dennett's algorithmic compressibility criterion specifies a necessary and sufficient condition for the *presence* of a pattern, but it does not by itself guarantee that the pattern is *real*. It is true that he formulates the criterion using the term "real": "A pattern exists in some data – is real – if there is a description of the data..." (Dennett 1991: 34). However, I believe this is simply due to his ambiguous use of the word "real" in this paper, for he is clear throughout that there are non-real as well as real patterns, and he goes on to specify a further criterion for distinguishing between the two.
- 21 To get an idea of what a real pattern is, let us first consider what a non-real pattern is. A non-real pattern is one that is due to pure chance. Suppose, for example, that we are to throw a fair die one thousand times and record the outcome of each trial. Let us further suppose that after having done ten throws, we find that in all of the first ten throws the die turns up six. This, of course, is a pure accident, but if we were to show the results of the first ten trials to someone without telling her that the numbers were generated by throwing a die, and we were to ask her to predict the next number, she would most likely predict that it will also be a six. She may happen to be right, but in that case we ask her to predict the next number, and the next, and so on. Then her prediction is bound to fail sooner or later. A pattern is undoubtedly present in the results of the first ten trials, and indeed, the data for the first ten trials can be compressed into a program that commands: "generate ten sixes." Nonetheless, further accumulation of data will eventually reveal the accidental nature of this pattern.
- 22 Conversely, we can say that a pattern is real if by discerning it we are able to make better-than-chance predictions about future events. A real pattern is one that is projectible into unobserved instances. Or as Dennett puts it, a pattern is real if you can get rich by betting on it (*ibid.*: 36). Dennett himself is not altogether clear on the relation between this predictive power criterion and the algorithmic compressibility criterion. The two criteria are clearly not equivalent, as can be seen in the above example of throwing a die. There will be no obscurity, however, if we simply take the predictive power criterion as a necessary and sufficient condition for the *reality* of a pattern, and the algorithmic compressibility criterion as a necessary and sufficient condition for the *presence* of a pattern, regardless of whether it is real or not. As we shall see below in §3, Dennett's idea that the reality of patterns consists in their predictive power is strikingly similar to one of Peirce's arguments for Scholastic realism.
- 23 The notion of predictive power brings us back to our earlier consideration, that not all observers are able to discern the same pattern in the same data, and that even the same observer may discern different patterns in the same data on different occasions. This means that patterns are in some sense *observer-dependent*. Dennett explicates this notion in terms of prediction: patterns are observer-dependent in that they can be discerned only from the point of view of an observer that adopts a certain predictive strategy, or *stance*, to use Dennett's terminology. For instance, Dennett calls the predictive strategy from which intentional states – beliefs, desires, and the like – can be

discerned the *intentional stance* (Dennett 1987: 17). Likewise, there can be predictive strategies for discerning any kind of pattern whatsoever: the Newtonian mechanics stance, the cellular biology stance, the microeconomic stance, etc. The idea is that patterns are not simply “out there,” naked in the world; on the contrary, the recognition of a pattern must always involve an element of active participation on the part of the observer, namely the adoption of a certain predictive strategy. This should not be taken to mean that the act of adopting a predictive strategy is always a conscious, deliberate act: the decision of which predictive strategy to adopt is dictated to a large degree by the structure of our sense organs, our genetic makeup, and the evolutionary history of our culture (Dennett 1991: 36).

- 24 Patterns thus have an observer-dependent being; but at the same time, they are in another sense *observer-independent*. They are observer-independent in that the facts about the success or failure of our predictive strategies do not depend on what we may think or will them to be; they are completely out of our control. It is this uncontrollability of the outcome of our predictions that imparts to some patterns – namely, those whose discernment leads to successful predictions – a real being.

2.3 Multiple Instantiability

- 25 An important characteristic of patterns is what I shall call their *multiple instantiability*, that is, the capacity for the same pattern to be instantiated by different individual elements or processes. In the introduction I mentioned the example of a melody played on the piano: the melody will retain its identity even if each of its individual notes is raised or lowered an octave. Our body is also multiply instantiable in this sense, since it remains the same even though the cells that compose it are constantly being replaced by new ones. I contend that any pattern one could think of has this property: the same flocking pattern can be exhibited by different individual birds; a wave propagating through a gas or liquid persists even as the molecules that constitute the wave constantly change; the solubility of salt in water manifests itself every time the relevant conditions are fulfilled; etc.
- 26 There are two points of clarification that I want to make here. First, a difference between the flocking pattern and the wave is that in any given instance of flocking behavior, the birds constituting the overall flocking pattern remain fixed, whereas in the case of a wave, the molecules constituting the wave pattern change over time. Humphreys (2008: 437-8) refers to patterns of the first kind as *micro-stable patterns* and those of the second kind as *micro-dynamic patterns* (and further distinguishes three subtypes of the latter). Our body is also an example of a micro-dynamic pattern. This difference, however, does not make the flocking pattern any less multiply instantiable than the wave or body is.
- 27 Second, it may be argued that by saying that our body or a wave is multiply instantiable, I am confusing the instantiation relation with a part-whole relation. The cells that compose our body, and the molecules that constitute a wave, are in a part-whole relation with the overall pattern, and the part-whole relation is not the same as the instantiation relation. My reply is that the constituent elements are in *both* a part-whole relation and an instantiation relation with the overall pattern. It seems undeniable that my body at a time t_1 and at a time t_2 a year later, say, are the same pattern instantiated at different points in time by different constituent elements; and

the elements' being in a part-whole relation with the overall pattern does not prevent them from also being in a relation of instantiation with that same pattern.

- 28 We have thus established that patterns are multiply instantiable. But this is simply another way of saying that patterns are general, for the traditional definition of a general (or universal) ever since Aristotle is: a general is that which can be predicated of many things; or in other words, a general is that which is multiply instantiable.⁸ That patterns are general is not surprising if we consider the fact that to discern a pattern is to discern a certain *form*, and a form is general. Samuel Alexander, one of the fathers of British emergentism, explicitly draws a connection between patterns and generals, arguing that the “quality” that emerges in any instance of emergence is at once a pattern and a universal: “To adopt the ancient distinction of form and matter, the kind of existent from which a new quality emerges is the ‘matter’ which assumes a certain complexity of configuration and to this pattern or universal corresponds the new emergent quality.” (Alexander 1920, 2: 47). Given that patterns are generals, Dennett’s theory of real patterns can be said to be a revival, in modern garbs, of Scholastic realism – the doctrine that there are real generals – although I doubt that Dennett himself views his theory in this way.⁹ The generality of patterns makes them perfect candidates for applying Peirce’s rich theory of generals, in particular his modal analysis of generality. To this we shall now turn.

3. Peirce’s Modal Analysis of Generality

- 29 We have seen that according to Dennett’s criterion, a real pattern is one whose discernment allows us to make successful predictions about future events. What I want to show in this section is that an emergent pattern’s capacity to support predictions about what will happen in the future is not enough for it to be autonomous from its underlying elements and processes. In order for a pattern to have this kind of autonomy, it must support predictions about not only what *will* happen in the future, but also what *would* happen in conceivable situations that are not actualized. Or as Peirce would say, it must be not merely a real *will-be*, but a real *would-be*. Peirce’s modal analysis of generality, according to which generals have the modality of *would-be*’s, will, I hope to show, give us a clear understanding of the autonomy characteristic of RP emergence.

3.1 The Pragmatic Maxim

- 30 Peirce’s modal analysis of generality is intimately connected with his pragmatism, so we shall begin by considering his pragmatism. Peirce himself was not always clear on the difference between *will-be*’s and *would-be*’s. In his early years he tended to vacillate between using the indicative mood (*will be*) and subjunctive mood (*would be*) in stating pragmatic clarifications.¹⁰ It was only in his later years, in the 1900s, that he became explicit about the difference between the two and began stressing the importance of using the subjunctive mood in stating pragmatic clarifications. A good way to understand the difference between *will-be*’s and *would-be*’s, therefore, is to trace the development of Peirce’s own ideas on the subject.
- 31 Peirce’s pragmatic maxim appeared in public form for the first time in his 1878 paper “How to Make Our Ideas Clear” (HTM), published as part of the *Illustrations of the Logic of*

Science series in the *Popular Science Monthly*. It was formulated as a logical principle for clarifying the meaning of ideas, for attaining the “third grade of clearness” of apprehension, the first two being the traditional criteria of *clearness* and *distinctness* as formulated by Descartes and developed by Leibniz (EP 1:124-7, W 3:257-61, 1878).¹¹ The famous statement of the maxim runs as follows: “Consider what effects, which might conceivably have practical bearings, we conceive the object of our conception to have. Then, our conception of these effects is the whole of our conception of the object” (EP 1:132, W 3:266, 1878).

- 32 To use the well-known example that Peirce himself gives, the meaning of the concept of *hard* is that an object to which *hard* can be applied as a predicate, such as a diamond, would not be scratched even if we apply pressure to it with, say, a knife-edge. That is, the meaning of the concept of *hard* can be analyzed into general laws expressible in conditional propositions of the form:

If you were to apply pressure to *X* (where *X* is an object to which *hard* can be veritably applied as a predicate), then *X* would resist the pressure.

- 33 Notice that I have formulated this conditional in the subjunctive mood (*would*) rather than the indicative mood (*will*); this is in accordance with Peirce’s later, more considered view. Now let us consider the general case. The pragmatic maxim states that the meaning of any concept can be analyzed into general laws expressible in conditional propositions of the form:

(*) If you were to do *m* to *X* (where *X* is an object to which the concept in question can be veritably applied as a predicate), then you would have an experience of type *n*.

- 34 We perform a certain kind of operation on nature (for example, we apply pressure to a diamond), and nature gives us a certain kind of response (the diamond resists the pressure). The *general law* that operations of a certain kind are always (or with a certain degree of probability) followed by responses of a certain kind is what constitutes the meaning of the concept in question.

- 35 What, then, is the difference between formulating pragmatic clarifications in the indicative mood and in the subjunctive mood? Indicative-mood clarifications analyze the meaning of a concept into laws that dictate what *will* happen in the future; whereas subjunctive-mood clarifications analyze the meaning of a concept into laws that have reference not only to what will happen in the future, but also to what *would* happen in possible situations that are not actualized. This difference is well-illustrated by a thought experiment that Peirce poses in HTM. There, he supposes that a diamond is burned up before its hardness could be tested, and asks whether it would be false to say that the diamond was soft. His answer, at the time of writing HTM, is “no”:

[T]here would be no *falsity* in such modes of speech. They would involve a modification of our present usage of speech with regard to the words *hard* and *soft*, but not of their meanings. For they represent no fact to be different from what it is; only they involve arrangements of facts which would be exceedingly maladroit. This leads us to remark that the question of what would occur under circumstances which do not actually arise is not a question of fact, but only of the most perspicuous arrangement of them. (EP 1:132, W 3:267, 1878)

- 36 In his 1905 paper “Issues of Pragmaticism,” however, Peirce admits that this conclusion was a mistake, and argues that a diamond’s hardness is a real property, regardless of whether it is actually put to the test or not (EP 2:356-7, 1905). The crucial difference between Peirce in the 1870s and Peirce in the 1900s lies in his conception of what kind

of modality general laws possess. For the earlier Peirce general laws are *will-be*'s, that is, they have reference only to events that we know will occur in the future, while for the later Peirce general laws are *would-be*'s, that is, they have reference also to counterfactual situations.

- 37 While the pragmatic maxim was originally formulated as a rule for clarifying the meaning of *concepts*, it can be extended into a principle for identifying the intellectual purport of any kind of general, anything capable of functioning as a predicate, including patterns. Together with Peirce's mature conception of general laws as *would-be*'s, this implies that the intellectual purport of any general, and hence any pattern, is a *would-be*.¹² Thus, to judge that something has a certain general form, or that something exhibits a certain pattern, is to judge that it is governed by general laws expressible in subjunctive conditionals of the form (*). From this it further follows that to discern a pattern in some system is to make predictions about how the system would behave under certain conceivable conditions. As we saw in the previous section, this is precisely what Dennett's theory asserts, except that here the predictions have reference not only to future events, but also to counterfactual situations.

3.2 Scholastic Realism

- 38 So far we have seen that according to the pragmatic maxim, to predicate a general of some object is to judge that the object is under the governance of certain *would-be*'s. Not all *would-be*'s, however, are real. Recall the example of throwing a die that we considered in §2.2. To say that the die is *fair* is to ascribe to the die a real *would-be*, namely, that if it were thrown many times, each face would turn up with a relative frequency close to 1/6, the deviation from 1/6 becoming smaller and smaller as more throws are made. But if we were to say, after having observed only the first ten throws, that the die is *loaded* in such a way that it only turns up sixes, then the *would-be* we ascribe to the die – that it would turn up a six every time it is thrown – would not be a real *would-be*, but a hasty generalization based on insufficient data. This difference can also be expressed by saying that the property of *being fair* is a real property of the die, whereas the property of *being loaded* is not. The pragmatic maxim analyzes the intellectual purport of any general predicated of a given object into a set of *would-be*'s, but it does not by itself determine whether the *would-be*'s are real or not; nor does it determine whether the general is a real property of the object or not. We therefore need some other criterion by which we can determine the reality of a general predicated of a given object. This criterion is provided by one of Peirce's arguments for Scholastic realism, the doctrine that there are real generals. As I mentioned in §2.2, this argument is intimately related to Dennett's formulation of the reality of patterns in terms of predictive power.
- 39 But before we go into the argument, a note on Peirce's use of the term "real" is in order. He defines *real* as follows: the real is "that whose characters are independent of what anybody may think them to be" (EP 1:137, W 3:271, 1878). That is, something is said to be real if its being such as it is cannot be (or could not have been) altered by the mere act of thinking it to be otherwise. Thus, Prince Hamlet is not real, since his characters (that he is the Prince of Denmark, that he sees his father's ghost, etc.) could have been different if Shakespeare had conceived of him differently; but the very fact that Shakespeare wrote *Hamlet* is real, since nothing about that fact can be (or could

have been) altered by the mere act of thinking it to be otherwise. While this definition of “real” is clearly different from Dennett’s formulation of the reality of patterns in terms of predictive power, we shall see that a pattern’s being projectible into the future is a good indication of its being real in Peirce’s sense.

- 40 The argument I want to take up appears in the “Seven Systems of Metaphysics,” the fourth of Peirce’s 1903 Harvard Lectures on pragmatism. There, he takes a stone in his hand and announces to the audience that he will perform an experiment: he will let go of the stone and see whether it will fall to the floor (EP 2:181, 1903). The experiment, of course, is meaningless, since everybody knows what will happen. But the deeper meaning of the experiment lies in the very fact that it is meaningless. How is it that we do not have to actually perform the experiment in order to know its result? The answer must be that the stone is governed by a real law operative in nature. If the law were only a mental formula and not real, there would be no way of explaining why future events will conform to it (and we know that they will), unless we were to suppose that the mind had some kind of miraculous power of prognosis. If, on the other hand, we suppose that the stone is governed by a real law dictating what would happen in certain kinds of situations, then witnessing the actual instantiations of the law will be no wonder. Now since laws are generals, it follows that there are real generals. Thus runs Peirce’s argument for realism from our experience of anticipation.
- 41 Now according to the (extended) pragmatic maxim, the intellectual purport of any general consists in laws expressible in subjunctive conditionals of the form (*). In the case of a stone, judging that something is a stone involves identifying the laws that it conforms to, one of which can be expressed as: “if you were to let go of the stone, it would fall,” and the conjunction of all such laws constitutes the entire intellectual purport of the general form or pattern of *stoneness*. Therefore, insofar as we know those laws to be real, then so is the general form or pattern whose intellectual purport these laws constitute. We are thus able to see why a pattern’s being projectible into the future is a good indication (but not conclusive proof – there is no such thing as a conclusive proof in matters empirical) of its being real in Peirce’s sense. It should be noted that although the predictions associated with a given pattern have reference to counterfactual situations, the reality of the pattern can be assessed only by testing whether the predictions it affords are actually fulfilled. It is only after we have established the reality of the pattern that we are justified in further generalizing the predictions to counterfactual situations.

3.3 Real Pattern Emergence

- 42 We are now in a position to define RP emergence:

A pattern *P* of a system *S* is said to be an *emergent real pattern* if it satisfies the following three conditions:

- (1) *P* is an emergent pattern of *S*, that is, *P* is a pattern that arises in *S* but cannot be manifested by the constituent elements of *S*;
- (2) *P* can in principle be predicted or derived from knowledge about the constituent elements of *S*;
- (3) *P* is real in the sense that it supports predictions about not only what *will* happen given a certain state of *S*, but also what *would* happen in an indefinite variety of possible micro situations of *S*.

Any instance in which a real pattern emerges in the above sense is an instance of *real pattern emergence* (*RP emergence*).

- 43 Condition (1) is simply a statement of the traditional notion of an emergent property as a “higher-level” property that cannot be possessed by “lower-level” entities, except that here it is framed in terms of patterns rather than properties. By condition (2), RP emergence is similar to epistemological emergence and differs from ontological emergence, in that the emergent pattern can in principle be derived from or explained in terms of its underlying elements or processes. This stipulation is necessary in order to prevent RP emergence from having the occult character of ontological emergence. On the other hand, by condition (3), RP emergence differs from epistemological emergence in that an emergent real pattern is in a strong sense *autonomous* from its underlying elements or processes. Recall that the Laplacean super-physicist Martians from Dennett’s thought experiment have no need to appeal to epistemologically emergent phenomena in order to make their predictions. Everything that epistemologically emergent phenomena might allow them predict they can also predict from the laws of fundamental physics. Epistemologically emergent phenomena are nothing more than epistemic crutches that make computations more tractable for beings like us who have limited computational resources and power; the Martians have no need for them.
- 44 This, however, is not the case with RP emergence. Insofar as the Martians are blind to emergent real patterns, there are phenomena which they will be unable to predict, but which we who have access to the patterns *can* predict. Suppose, for example, that Bob is ill-tempered. This is a real pattern in his behavior, and we shall assume that it somehow emerges from the physiological and neural processes that take place in his body. On the basis of this pattern, I am able to predict, not only what he *will* do in a given circumstance, but also what he *would* do in an indefinite variety of possible circumstances. The Martians too will be able to predict what Bob will do in a given circumstance. Suppose that I decide to put some *wasabi* in his dessert. The Martians will be able to predict Bob’s ensuing fit of anger, but they can do so only by tracking every physical condition that could conceivably have an effect on the outcome, such as the temperature, the direction of the wind, and perhaps whether a butterfly had been fluttering in a specific location in Brazil the day before. But they cannot predict what Bob *would* do in a merely hypothetical circumstance, because they are unable to isolate the factors relevant to the prediction (such as Bob’s being ill-tempered) from those that are irrelevant. Since I know that Bob is ill-tempered, I can predict how he would act in an indefinite variety of possible circumstances, without having to specify conditions such as the temperature, the direction of the wind, etc. But the Martians cannot make their prediction without all of this information, which in fact is irrelevant to the prediction, and this is because they do not have access to the real pattern that Bob is ill-tempered. In order to know what factors are relevant to making a prediction, one must have access to the appropriate patterns.
- 45 Many philosophers seem to think that an emergent pattern embodies less information than descriptions of its underlying elements or processes. In other words, they think that even if a “higher-level” description of a system is useful or perhaps indispensable in making predictions, it is merely the result of shaving away some of the information contained in the “lower-level” description. Even Dennett, whose theory of real patterns goes a long way towards offering a modern vindication of Scholastic realism, seems to

lapse into this position when he characterizes abstract objects as “lossy compression[s].” (Dennett 2000: 360). An emergent real pattern, however, can embody *more* information than descriptions of its underlying elements or processes, in that it supports predictions which the latter do not.¹³ And this is precisely because patterns are more *general* than the elements or processes instantiating them. One is tempted to see in the view that emergent patterns are mere “compressions” of their underlying dynamics the “Ockhamistic prejudice” that Peirce refers to in the passage quoted in the epigraph: “Get rid, thoughtful Reader, of the Ockhamistic prejudice of political partizanship that in thought, in being, and in development the indefinite is due to a degeneration from a primal state of perfect definiteness.” (CP 6.348, 1907).

4. Bedau on Weak Emergence

- 46 In this section I want to throw what I call RP emergence into sharper relief by comparing it with Mark Bedau’s related notion of *weak emergence* (Bedau 1997, 2002). Bedau distinguishes three kinds of emergence: nominal, weak, and strong. A *nominally emergent* property is “a macro property that is the kind of property that cannot be a micro property” (Bedau 2002: 9). Thus, properties of water such as fluidity and transparency are nominally emergent properties, since they cannot be possessed by the individual molecules that constitute water. Nominal emergence is the barest and broadest notion of emergence, and encompasses both weak and strong emergence as special cases. Note that it corresponds to condition (1) in my definition of RP emergence. A *strongly emergent* property is one which, in addition to being nominally emergent, is a “supervenient propert[y] with irreducible causal powers” (*ibid.*: 10). These macro causal powers have a determinative influence on both the macro and micro levels, and in the latter case it is called *downward causation*. Although Bedau’s notion of strong emergence is defined differently from what I have been calling ontological emergence, it is similar to the latter in that the causal powers associated with it are “brute” natural powers that arise inexplicably from the micro elements or processes (Bedau 2002: 11).
- 47 Finally, a *weakly emergent* property of a system is one which, in addition to being nominally emergent, can be derived only through a step-by-step simulation of the system. Bedau’s definition is as follows: “Assume that *P* is a nominally emergent property possessed by some locally reducible system *S*. Then *P* is weakly emergent if and only if *P* is derivable from all of *S*’s micro facts but only by simulation.” (*Ibid.*: 15). A *locally reducible* system is, roughly, a system whose macro properties are all structural properties – they are wholly constituted by the states and locations of the system’s micro entities – and whose micro dynamics is context-sensitive in the sense that a micro entity’s state depends on the states of its micro-level neighbors (*ibid.*: 14). Since weakly emergent properties are macro properties of a locally reducible system, they are wholly constituted by the states and locations of the system’s micro entities. In other words, they are ontologically reducible to micro phenomena: “their existence consists in nothing more than the coordinated existence of certain micro phenomena” (*ibid.*: 12). This is what makes weak emergence a weaker form of emergence than strong emergence, which involves irreducible causal powers. On the other hand, the context-sensitivity of the micro dynamics of locally reducible systems entails that understanding how the micro entities behave in isolation or in certain simple contexts

does not, in general, enable us to predict how they will behave in more complicated contexts (*ibid.*: 14). Locally reducible systems thus possess a certain kind of unpredictability, and a weakly emergent property is a macro property of a locally reducible system that is unpredictable in a specific sense: it is underivable from knowledge about the micro entities except by explicit simulation of the system.

- 48 Although Bedau frames his definition of weak emergence in terms of *properties*, we can also define weak emergence in terms of *patterns*: Let *S* be a locally reducible system, and let *P* be a nominally emergent pattern of *S*, that is, *P* is a pattern that arises in *S* but cannot be manifested by the constituent elements of *S*. Then *P* is a weakly emergent pattern if and only if *P* is underivable from knowledge about the constituent elements of *S* except by explicit simulation of *S*. Hereinafter I will speak of weakly emergent patterns rather than properties.
- 49 What deserves emphasis is that the impossibility of deriving weakly emergent patterns except by explicit simulation is not a merely practical impossibility that might be overcome some time in the future, or by beings with greater computational power than humans. Weak emergence has nothing to do with the epistemic limitations of the human mind or lack of available computational resources. Rather, “it involves the formal limitations of any possible derivation performed by any possible device or entity” (*ibid.*: 17). To dramatize this point, Bedau considers a Laplacean supercalculator – not unlike the Martians we have been considering so far – whose computational speed and accuracy are not bounded by any human or hardware-related limitations. He insists that even such a being would not be able to derive weakly emergent patterns except by direct simulation (*ibid.*: 17). This is because the process leading up to the emergence of weakly emergent patterns is, to use the terminology of Wolfram (1985), *computationally irreducible*, that is, as a matter of principle there can be no short-cut derivations of these patterns that are simpler than the natural computational process by which they are generated.
- 50 A good way to understand the notion of computational irreducibility is to consider a process that is *computationally reducible*. Suppose, for example, that we throw a stone straight up into the air. Let us assume that the stone is subject only to gravity and an air resistance proportional to its velocity. Given the initial position and velocity of the stone, we can determine, using Newton’s laws of motion, the position and velocity of the stone at any desired time *t* after it has been thrown. Newton’s laws thus provide us with a short-cut derivation of the system’s state at time *t*: we do not have to actually go through the entire evolution of the system leading up to time *t* in order to determine the system’s state at that particular time. This is what it means to say that a process is computationally reducible. A computationally *irreducible* process, on the other hand, cannot be bypassed in this way. It is of such complexity that in order to determine the state of the system at some time *t*, we must explicitly follow the entire evolution of the system leading up to *t*. The emergence of patterns in the Game of Life, which we will discuss in detail below, is an example of a computationally irreducible process (and hence of weak emergence).
- 51 Even if the impossibility of deriving weakly emergent patterns except by explicit simulation is an impossibility in principle rather than an impossibility in practice, one might still urge that the impossibility is merely an epistemological one, and that weak emergence is therefore a form of what I have been calling epistemological emergence. The argument would go something like this: since, by definition, weakly emergent

patterns are nothing more than aggregations of the micro phenomena that constitute them, they do not have any real explanatory power: “all the explanatory power resides at the micro level and the macro phenomena are merely an effect of what happens at the micro level” (Bedau 2002: 37). Hence, even if weakly emergent patterns have explanatory autonomy, this autonomy is a merely epistemological one – it amounts to nothing more than “our inability to follow through the details of the complicated micro causal pathways” (*ibid.*: 38) – and does not reflect any autonomous and irreducible feature of reality. Bedau’s reply to this line of argument throws interesting light on the relation between weak emergence and RP emergence. In response to the argument, he makes a distinction between cases of weak emergence for which the argument is sound, and cases for which it is not. He grants that in some cases, weakly emergent patterns are indeed mere effects of what happens at the micro scale, and their explanatory autonomy is merely epistemological (*ibid.*: 38).

- 52 As an example, consider John Conway’s Game of Life. This is a cellular automaton consisting of an infinite, two-dimensional lattice of square cells, each of which is in one of two possible states, dead or alive. Time in the Game of Life flows in discrete steps. At each time step, each cell updates its state according to a simple function of its own state and the states of its eight neighboring cells in the previous step. The update rule for the Game of Life is as follows:
- (1) A living cell stays alive if either two or three of its neighbors were alive in the previous step; otherwise it dies.
 - (2) A dead cell becomes alive if exactly three of its neighbors were alive in the previous step; otherwise it remains dead.
- 53 Given a suitable initial configuration of living and dead cells, the above rule will generate various enduring patterns in the playing field; whether and what patterns appear depend on the initial configuration. For example, there is a particular pattern called a “glider” that moves diagonally across the field, shifting one cell along the diagonal every four time steps (Fig. 1). There are also various kinds of “glider guns” that periodically shoot gliders; one particular type of glider gun, known as the Gosper glider gun, is shown in Fig. 2.

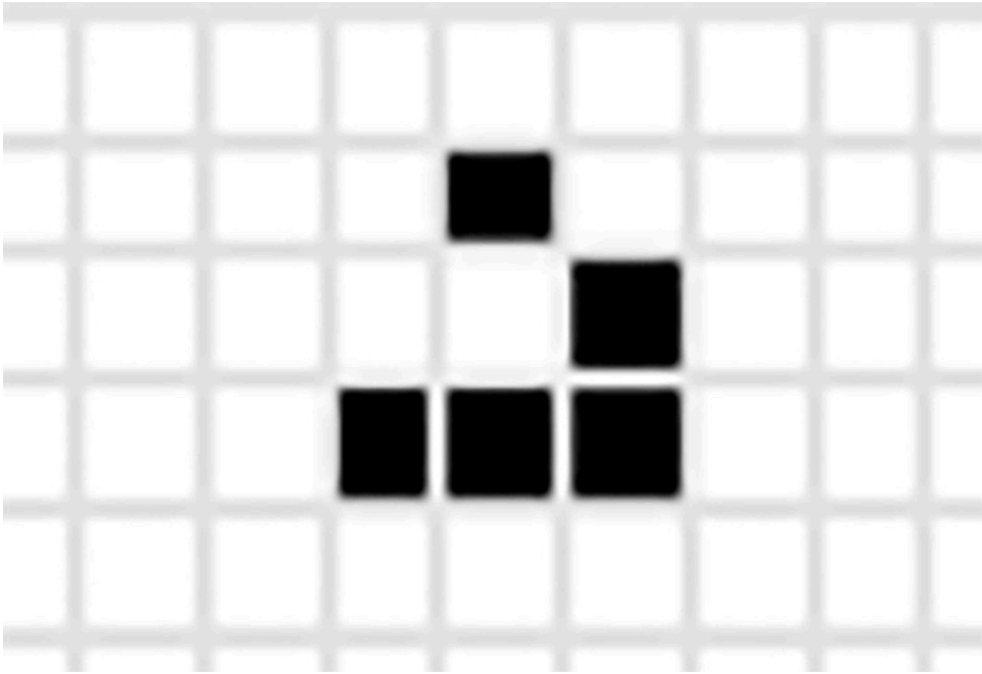


Fig. 1 Glider (the black cells represent living cells and the white cells represent dead cells).

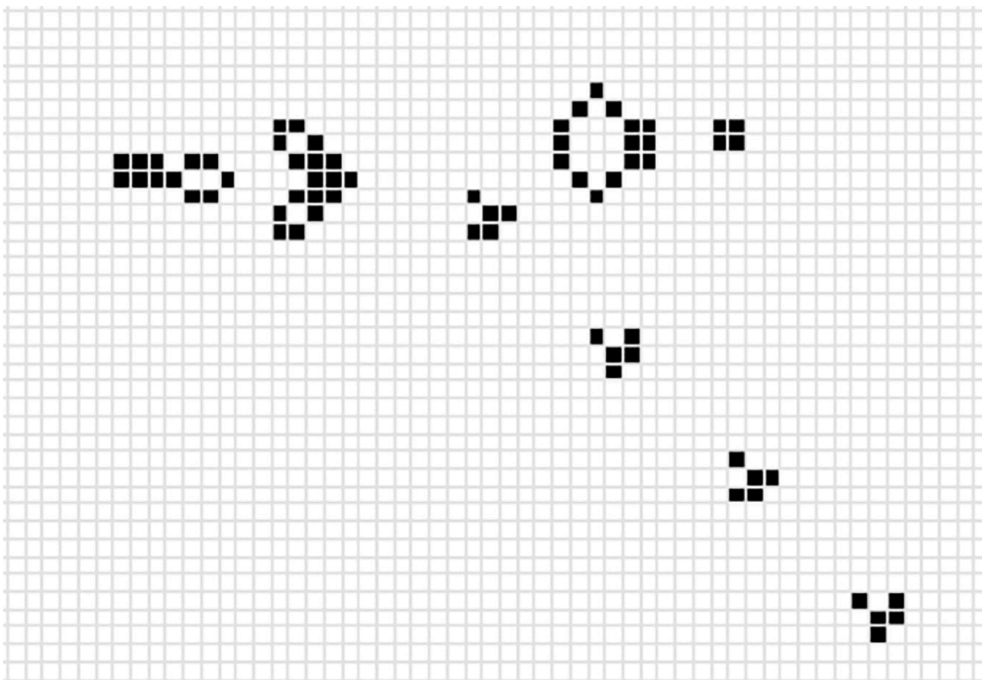


Fig. 2 Gosper glider gun.

- 54 Even if there is no glider gun, gliders can also be produced accidentally from interactions among other patterns or patternless clusters of living cells. Bedau asks us to consider a “configuration in the Game of Life that accidentally... emits a stream of six evenly spaced gliders moving along the same trajectory” (Bedau 2002: 38). He argues that the emergence of this glider stream is an example of merely epistemological weak emergence, because it has no overarching explanation: “The explanation for the glider

stream is just the aggregation of the causal histories of the individual cells that participate in the process.” (*Ibid.*: 39). The glider stream is similar to the accidental succession of sixes in our example of throwing a die (§2.2): just as there is no real law or *would-be* governing the succession of sixes, so there is no real law or *would-be* governing the glider stream.

- 55 On the other hand, suppose there is a glider gun shooting a stream of gliders, as in Fig. 2. As in the previous case, this glider stream can be explained by the aggregation of the causal histories of the individual cells participating in the process. However, there is more to this second glider stream: it is produced by a glider gun, which provides an overarching macro explanation of the stream. This macro explanation is applicable not only to the case at hand, but also to any other instance in which a glider gun shoots a stream of gliders. The aggregate micro explanation omits this information (*ibid.*: 39). Furthermore, the instances in which the macro explanation is applicable include counterfactual situations:

The same glider stream would have been produced if the first six gliders had been destroyed somehow (e.g., by colliding with six other gliders). Indeed, the same glider stream would have been produced if the configuration had been changed into any number of ways, as long as the result was a gun that shot the same kind of gliders. Any such macro gun would have produced the same macro effect. (*ibid.*: 39)

- 56 The glider gun is thus autonomous from its underlying micro dynamics, because it is a macro pattern that “supports counterfactuals about what *would* happen in an indefinite variety of different micro situations” (*ibid.*: 41-2; emphasis mine). In other words, it is autonomous because it is an instance of RP emergence.
- 57 The accidental glider stream and glider gun are both instances of weak emergence, insofar as they are both underivable without actually going through the Game of Life step-by-step.¹⁴ Nonetheless, the former does not have the autonomy of the latter, and this is because the latter is projectible into counterfactual situations while the former is not. What this shows is that emergent patterns that are autonomous from their underlying elements or processes are so by virtue of their being instances of RP emergence, not by virtue of being instances of weak emergence.
- 58 The accidental glider stream is an instance of weak emergence that is not an instance of RP emergence. Hence, not all instances of weak emergence are instances of RP emergence. Conversely, not all instances of RP emergence are instances of weak emergence. As an example of RP emergence that is not an instance of weak emergence, consider a thought experiment put forth by Hilary Putnam in “Philosophy and Our Mental Life” (Putnam 1975: 295-7). Suppose we have a rigid board with two holes, a circle one inch in diameter and a square one inch high, and a cubical peg slightly smaller than one inch in each dimension. We want to explain the fact that the peg passes through the square hole but not the round hole. One way of going about would be to regard the board and peg as lattices of atoms, and attempt to calculate all the possible trajectories of the peg from the laws of quantum electrodynamics (if this sounds infeasible, we can suppose that the calculation is carried out by the Martians from Dennett’s thought experiment). We could say that we have attained our explanation if we are able to deduce that the peg never passes through the round hole, but there is at least one trajectory in which it passes through the square hole.
- 59 There is, of course, a much simpler explanation. We simply note that both the board and peg are rigid, the round hole is smaller than the peg, and the square hole is larger

than the cross section of the peg. This is an explanation that appeals to the *shape* of the holes and peg, which is a pattern that emerges from the way the atoms composing the board and peg are arranged. There is presumably nothing about this pattern that makes it underivable from knowledge about its underlying elements except by explicit simulation; it is a trivial result of the atoms being held together in a certain configuration. It is therefore not an instance of weak emergence. On the other hand, there is an indefinite variety of possible trajectories by which one could attempt to make the peg pass through either of the holes, and the shape of the holes and peg allow us to predict, in the case of any of these possible trajectories, whether the peg would pass through (as well as explain why it passes through or not). Furthermore, the same kind of prediction (and explanation) will hold for any set of objects with the relevant geometrical features, regardless of their size, the material they are made of, etc. Just like the glider gun, the shape of the holes and peg supports predictions about what would happen in an indefinite variety of possible micro situations, including situations that are not actualized. It is thus an instance of RP emergence.

Concluding Remarks

- 60 So far we have developed an account of RP emergence, building on Dennett's notion of real patterns and Peirce's modal analysis of generality. We have seen how RP emergence allows us to avoid both radical emergentism, which holds that there are instances of ontological emergence in the world, and ontological reductionism, which holds that all instances of emergence in the world are epistemological. Finally, I have attempted to throw the concept of RP emergence into sharper relief by comparing it with Bedau's related notion of weak emergence. My aim has been to illustrate how Peirce's theory of generality, as encapsulated in his pragmatism and Scholastic realism, offers us a novel perspective on the issues surrounding emergence, while at the same time bringing Peirce's Scholastic realism up-to-date in the form of a realism about patterns.

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Abbreviations

CP x.y = Collected Papers of Charles Sanders Peirce, volume x, paragraph y.

W x:y = Writings of Charles S. Peirce: A Chronological Edition, volume x, page y.

EP x:y = The Essential Peirce: Selected Philosophical Writings, volume x, page y.

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NOTES

1. Of course, different authors prefer different terminology. What I am here calling "epistemological emergence" has also been called "weak emergence" (Chalmers 2006; not to be confused with Mark Bedau's version of weak emergence, which I will discuss in §4), "conservative emergence" (Seager 2012), and "conceptual emergence" (Humphreys 2016), while what I am here calling "ontological emergence" has also been called "strong emergence" (Chalmers 2006), "radical emergence" (Seager 2012), and "brute emergence" (Strawson 2006). It should be noted that Chalmers' notion of weak emergence is broader than what I call epistemological emergence, since he defines weak emergence in such a way that cases of strong emergence are also cases of weak emergence, whereas I prefer to define epistemological and ontological emergence to be mutually exclusive.
2. The view is held, for example, by Anderson 1972, Weinberg 1987, and Seager 2012.
3. One could also attempt to deny the assumption, mentioned earlier, that every emergent feature in the world ultimately emerges from the entities and laws of fundamental physics. However, I will simply accept this as a plausible assumption.
4. The notion of "real pattern" is taken from Dennett 1991.
5. Some rare exceptions, in addition to Ladyman & Ross 2007, are Wimsatt (1976: 237-63), Wimsatt 1994, and Humphreys (2016: 120-6).
6. The discussion in this paragraph owes much to Reiji Sugano's study of the hierarchical structure of nature (Sugano 2013, Chapter 3). I also want to thank Taksu Cheon for his insightful suggestions on the topic in personal correspondence.
7. As we will see below, in the same paper Dennett gives another criterion for the reality of patterns, according to which a pattern is real if by discerning it one can make successful predictions about future events. The relation between this predictive power criterion and the algorithmic compressibility criterion cited here, however, is unclear. It seems to me that this unclarity derives from Dennett's ambiguous use of the term "real" in the quoted passage. The unclarity can be resolved if we take Dennett's algorithmic compressibility criterion as a criterion simply for the *presence* of a pattern, regardless of whether or not it is real (in the sense of supporting predictions about future events). I will touch upon this point again below.
8. Aristotle, *De Interpretatione*, VII, 17a38.
9. There is, however, a residue of nominalism in Dennett's theory, namely his retention of Hans Reichenbach's distinction between *illata* (concrete physical objects) and *abstracta* (abstract objects), and his characterization of the latter as "lossy compression[s]" (Dennett 2000: 360). Ross 2000, rightly in my opinion, argues that Dennett should abandon the *illata/abstracta* distinction.
10. See Lane (2018: 51-8) for an account of this vacillation.

11. See the list at the end of this paper for an explanation of the abbreviations used in referring to Peirce's writings.

12. It is not quite clear whether Peirce himself intended the pragmatic maxim to be a rule about the intellectual purport of any general. In a later formulation, the maxim is framed as a rule for identifying the "intellectual purport of any symbol" (EP 2:346, 1905), but not all generals are symbols, since in Peirce's famous ten-fold classification of signs, there are legisigns (general signs) that are not symbols (EP 2:289-9, 1903). On the other hand, legisigns are general laws that are signs, and hence have the modality of *would-be's*. Therefore, assuming that all generals are legisigns, it seems that for (the later) Peirce all generals have the modality of *would-be's*.

13. Interestingly, Erik Hoel 2017 has arrived at the same conclusion, that a macro-level description of a system can contain more information than a micro-level description, through an application of information theory to the analysis of causal structures; see Hoel 2018 for a non-technical exposition.

14. The underivability of patterns in the Game of Life without explicit simulation is a consequence of the fact that the Game of Life is Turing complete, that is, it can be used to simulate an arbitrary computer program. Suppose there is a general algorithm that allows us to accurately predict the behavior of the Game of Life for an arbitrary initial configuration, without going through it step-by-step. Since the Game of Life is Turing complete, this algorithm will also be able to determine the behavior of an arbitrary program with any possible input, including whether it will halt or not. But this contradicts the undecidability of the halting problem, so there can be no such algorithm.

ABSTRACTS

A distinction often drawn in the literature on emergence is that between *epistemological emergence* and *ontological emergence*. I argue that the position that there are instances of ontological emergence in the world (*radical emergentism*) and the position that all instances of emergence are epistemological (*ontological reductionism*) are both problematic. My aim in this paper is to outline a third form of emergence, inspired by the philosophical ideas of Charles S. Peirce and Daniel Dennett, which will allow us to avoid both radical emergentism and ontological reductionism. Since what emerges in this kind of emergence is a *real pattern*, I call it *real pattern emergence* (*RP emergence*).

A defining characteristic of a pattern is that it is more *general* than the elements or processes instantiating it. That is, the same pattern can be instantiated by different individual elements or processes. This generality of patterns makes them perfect candidates for applying Peirce's rich theory of generals, including his pragmatism and Scholastic realism. I will argue that a real pattern is what Peirce calls a *real general* (or *real Third*), and like a real general, it is autonomous from the elements or processes instantiating it, because it supports predictions about not only what *will* happen in a given situation, but also what *would* happen in an indefinite variety of possible micro situations that are not actualized. This autonomy of real patterns will be the key feature that sets RP emergence apart from mere epistemological emergence, without, on the other hand, collapsing it into ontological emergence. The difference between RP emergence and Mark Bedau's related notion of *weak emergence* will also be clarified.

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Does Continuity Allow For Emergence?

An Emergentist Reading Of Peirce's Evolutionary Thought

Maria Regina Brioschi

1. *Emergence*: The “Living Influence” of a Concept*¹

As many have remarked in the last two decades, the notion of “emergence” has been receiving renewed attention in various debates: from evolutionary biology to social sciences, as well as in cognitive sciences and philosophy of mind.² Overall, this new interest can be related to the (supposed) explanatory function in complex systems studies and to the possibility of a “non-reductive physicalism” (Crane 2001: 207). As Bennett-Hunter has recently recalled:

In the broadest possible terms, the concept of emergence is supposed to describe what happens when systems reach a certain level of complexity, at which point ‘new’ properties or entities are said to emerge. [...] On the one hand, there has to be an important connection between the system, from which the phenomena [properties or entities]³ emerge, and the phenomena themselves. On the other hand, however, in order to count as emergent, phenomena have also to be novel with respect to the system out of which they supposedly emerge. (Bennett-Hunter 2015: 305)

Accordingly, the notion of “emergence” has been adopted as a keystone of “non-reductive physicalism,” since it enables to disclose a “*via media* between the extremes of radical dualism and reductionism,” according to Timothy O’Connor. The author continues:

This middle road consists in the claim that the phenomenon in question is at once grounded in and yet emergent from the underlying material structure with which it is associated. At various times, this claim has been made with respect to the so-called secondary qualities, biological life, and, most commonly of all, consciousness. (O’Connor 1994: 91)

Although it is possible to point to the two general features of the concept of *emergence* listed above, there is no common definition or definite meaning of it, nor is there a

specific correspondence in the usage of the concept among different scholars and disciplines. Indeed, one of the main problems related to current debates on emergence is how to find a coherent framework in which to develop research.

To unravel this tangled situation, some distinctions have been made that are useful for ordering problems generally involved in emergentism. Among them, two distinctions stand out and are nowadays generally accepted and assumed in contemporary debates. The first is the difference between an *epistemological* and an *ontological* concept of emergence (and emergent phenomena), and the second is between a *weak* and a *strong* sense of emergence.⁴ The first distinction depends on the answer given to the following question: “Is emergence an objective feature of the world or is it merely in the eye of the beholder?”⁵ Accordingly, from an epistemological perspective “emergence” refers to a category characterizing our models of representation or theories of nature and, as a consequence, can even be construed as an effect of our limited patterns of knowledge. On the contrary, from an ontological viewpoint, “emergence” denotes the real occurrence of some “qualitative novelty.”⁶ Consequently, the emergent phenomena⁷ are considered as real components of the world, irreducible to the prior level from which they appear.

The second distinction (between weak and strong emergence), suggested first by Mark A. Bedau in 1997,⁸ and revisited and further expanded by David Chalmers in 2006, can be expressed as follows: we speak of a weak emergent phenomenon when “the high-level phenomenon arises from the low-level domain, but truths concerning that phenomenon are *unexpected* given the principles governing the low-level domain,” while we detect a strong emergent phenomenon when “the high-level phenomenon arises from the low-level domain, but truths concerning that phenomenon are *not deducible* even in principle from truths in the low-level domain” (Chalmers 2006: 244; italics mine). Thus, weak emergent phenomena are unexpected and unpredictable, yet deducible from the low-level domain’s laws. Their unpredictability lies indeed in the fact that, although at the high-level any global/complex behavior is constituted by/reducible to the low-level domain, these low-level interactions are intertwined in such a complex structure that it makes impossible a “simple” explanation of high-level phenomena, and therefore their predictability. This notion of “weak emergence” is usually adopted in the description of complex systems, while the notion of “strong emergence” is used in philosophical contexts. The most notable phenomenon to which it has been applied is that of consciousness.

To sum up the main claims distinctive of the strong emergentist approach, which are also indicative of the problems implied by it, we can adopt Jeagwon Kim’s overview, slightly modified in accordance to the forehand.⁹ Thus, on the whole, we can summarize Emergentism as a doctrine based on:

1. *Systemic perspective*. The emergence of complex higher-level phenomena (proper ontological entities and/or new structural configurations with a high-level of complexity, from the coming together of the low-levels entities; and/or emergent properties not consequent from those of the prior, lower-levels) – W & S emergence;
2. *Unpredictability*. An essential feature is the unpredictability of emergent phenomena (a phenomenon can be called “emergent” if and only if the information, properties and laws of the low-level cannot predict it *in principle*) – W & S emergence;
3. *Unexplainability and irreducibility of emergent phenomena*. The emergent phenomena cannot be epistemologically explained in terms of their low-level domains, nor

ontologically reducible to them – S emergence only;

4. *Downward causation*. The emergent phenomena are not only irreducible to lower levels, but exercise their own causal powers both at their level and further down on their lower, constituent levels – S emergence only.

Far from an exhaustive account of emergentism, these features are useful as pins to stick into the map of emergentism in order to orient ourselves in current and past debates. Furthermore, it has recently been pointed out how the most controversial, as well as the most crucial, points to clarify, in order to make theories of emergence stronger, is a “positive characterization of emergence.” Namely, a characterization that offers an explanation of “irreducibility” and also of “downward” causation (cf. Kim 1999; cf. points 3, 4). Many lines of investigation can be pursued to clarify these issues; in this paper I will adopt both a historical and philosophical-critical perspective. A historical one because British Emergentism is usually interpreted as the first exposition of a strong notion of emergence (cf. Chalmers 2006: 244). This direction has even been advocated in current debates, as Kim states: “Any account of emergence, I believe, should show significant continuity with the concept that the British emergentists of the early 20th Century, such as Alexander, Morgan, and Broad, had in mind [...]” (Kim 2006: 548). And a philosophical-critical one because a reconstruction of some key concepts of British Emergentism, combined with classical pragmatists’ approaches and issues (Peirce’s in particular), can lead to an elucidation of the philosophical problems related to both a positive description of emergence and downward causation.

2. From Emergentism to Pragmatism and back

2.1. Historical Examination

“British Emergentism” is the label usually applied to three British philosophers of the early 20th Century who built their systems of thought upon the notion of “emergence,” thereby denoting the dynamical relationship of the different layers of reality: Conwy Lloyd Morgan (1852-1936), Samuel Alexander (1859-1838), and Charlie Dunbar Broad (1887-1971).¹⁰ With their major works, Alexander’s *Space, Time and Deity* (1920), Lloyd Morgan’s *Emergent Evolution* (1923), and Broad’s *The Mind and its Place in Nature* (1925), each tried to “offer an alternative to mechanism and vitalism by introducing a third theory called emergentism” (Stephan 1992: 25), based upon the following assumptions (cf. McLaughlin 1992: 49-51): (a) everything is made of matter (i.e., elementary material particles); (b) these particles are organized in levels hierarchically ordered on the basis of their complexity, and to each of them corresponds a special science (in order: to the physical level/Physics, to the chemical level/Chemistry, to the biological level/Biology and the psychological level/Psychology); (c) each level is made up of the lower ones, though its properties are not reducible to them (a certain structural configuration indeed implies certain specific causal powers/laws different from level to level); (d) those “emergent laws” also have an impact on the lower levels, with what has been called downward causation. Their common efforts were so successful that from the 1920s to the 1960s philosophical debates on emergentism notably multiplied, and the category of emergence became widespread, largely adopted, or at least discussed.¹¹

As the chronology clearly indicates, Peirce could not have read those works during his life. And, although Lloyd Morgan was invited to give lessons in Boston, New York and

Chicago in 1895-1896, there is no indication that Peirce knew him or his studies, which were mainly devoted to comparative psychology before the formulation of his emergentist theory. As further evidence of Peirce's lack of connections with emergentism – Goudge highlighted in 1973 – Peirce never adopts the notion of “emergence” or “emergent” in a technical manner in his writings (Goudge 1973: 144). On the contrary, as it is well known, John Dewey and especially George Herbert Mead used the notion of emergence, and, for this reason, their thoughts have often been considered as “emergentist” or at least comparable to those theories (cf. Blitz 1992; Stephan 1999; El-Hani & Pihlström 2002; Cherlin 2015).¹² Before examining in detail the extent to which classical pragmatists considered British Emergentism, it is worthwhile to note that Lloyd Morgan, Alexander and Broad never looked at pragmatism as a significant source of ideas, nor as a benchmark for developing their thoughts. On the whole, they never took into account pragmatism as a philosophical movement, but all of them held in great esteem the work of William James, especially as a psychologist.¹³

If we then move on to the historical reconstruction of pragmatists' connections to emergentism,¹⁴ the key figures who explicitly took into account emergentism are Ferdinand C. S. Schiller, John Dewey, and especially George H. Mead. Indeed, the three of them either adopt an “emergentist” terminology in their writings, or took part in emergentism's debates, though not in a univocal sense. For instance, in *Experience and Nature* Dewey evaluates his own account of life and the mind-body problem as “an attempt to contribute to what has come to be called an ‘emergent’ theory of mind” (Dewey 1925: 271); Schiller carefully scrutinizes the concept of “emergence” in his essay “Creation, Emergence, Novelty” (1930),¹⁵ and, in a more crucial way, Mead adopts the concept of emergence as pivotal in his *The Philosophy of the Present*, underlying the social character of the self, its relation to language, and the connection of the present to the past. In the “Introduction” of this posthumous book, Arthur E. Murphy mentions emergentism as a primary source of Mead's thought. He states:

The third and perhaps the dominant strain in these lectures, however, is derived neither from pragmatism nor from research science, but forms part of that *philosophy of nature* which will no doubt be regarded as *the characteristic contribution of the 1920's in Anglo-American philosophy*. Alexander's *Space, Time and Deity* was the pioneer work in this transition from problems of knowledge – of “realism,” “pragmatism” and “subjectivism” – to speculations about space and time and finally to metaphysics and the categories. (Murphy 1932: xiv; italics mine)¹⁶

A few pages later John Dewey, in the *Prefatory Remarks*, makes a very helpful comment both from a historical perspective and a theoretical one:

Since his problem was (and that long before the words “emergent evolution” were heard), essentially that of the emergence of the new and its ultimate incorporation in a recognized and now old world, one can appreciate how much more fundamentally he took the doctrine of emergence than have most of those who have played with the idea. (Dewey 1932: xxxviii)

What Dewey wants to stress here is the originality of Mead's thought, but he also enlightens two fundamental aspects of our brief historical reconstruction of Classical Pragmatism and British Emergentism. 1) During the twenties, especially in the Anglo-American areas, debates on emergence and the emergentist “vocabulary” were so widely diffused that Murphy defines the notion of “emergence” as a “catchword” of the period (Murphy 1932: xi). Accordingly, the pragmatists who lived in that period compared their thoughts with this “emergent” mainstream, critically evaluated its notions, and sometimes adopted its jargon as well, as was the case for Mead, albeit with

some modifications. 2) According to Dewey, one of the core topics of emergentism (the emergence of the new and its encounter with the old) can be traced in Mead's thought long before it became preeminent in British Emergentism, and this – together with Schiller's criticism of emergence – leads us toward a more theoretical consideration of the connections of emergentism and pragmatism. Accordingly, in the next paragraph I will try to develop the hypothesis, suggested by Dewey's quote, that Classical Pragmatists and British Emergentists can be viewed as two different, possible answers to the same range of problems and issues inherited from the past and especially developed by British thinkers.

2.2. Theoretical Examination

2.2.1. Common Traits

Overall, the main reason why Dewey and Mead have been often compared to or considered together with British Emergentists lies on the latter's non-reductive materialism.¹⁷ As Kim states:

Classical emergentists like Morgan and Alexander thought of themselves as occupying a moderate intermediate position between the extremes of “mechanistic” reductionism on the one hand and explicit dualisms like Cartesianism and neo-vitalism on the other. [...] It is evident that emergentism is a form of what is now standardly called “non-reductive materialism,” a doctrine that aspires to position itself as a compromise between physicalist reductionism and all-out dualisms. (Kim 1999: 4)

And the same intermediate position can also be advocated for Classical pragmatists, considering their strong opposition to any dualism or Cartesianism and their consequent, radical understanding of mind and matter. As Dewey's reflection testifies to: “There is neither a sudden jump from the merely organic to the intellectual, nor is there complete assimilation of the latter to primitive modes of the former” (Dewey 1930: 220).¹⁸ More in detail, we can identify two key-concepts associated to both classical pragmatism and British Emergentism:

(a) *Mind in Evolution*. Classical pragmatists intersect the line of thought of emergentism at the very point where emergentism is extremely appealing still today: the mind-body problem.¹⁹ They are indeed among the first who tried to philosophically re-think mind in an evolutionary framework, in continuity with the organic world but without denying its specificity or reducing its laws to the previous ones. In this regard, Goudge noticed in 1973:

The pragmatists were the first group of philosophers to work out in detail a philosophy of mind based on evolutionary principles. Moreover, since they were familiar with classical ideas in the field, they were able to assess the kinds of changes in those ideas which evolutionary principles required. (Goudge 1973: 133)

Similarly, British Emergentism comes from an evolutionary background.²⁰ With their “emergent” view of evolution, they try to preserve the continuity/discontinuity between levels: inorganic/organic, organic/psychical, etc. In Lloyd Morgan's own words:

Evolution, in the broad sense of the world, is the name we give to the comprehensive plan of sequence in all natural events.
But the orderly sequence, historically viewed, appears to present, from time to time, something genuinely new. Under what I here call *emergent evolution*, stress is laid on this *incoming of the new*. (Lloyd Morgan 1923: 1; italics mine)

This emphasis on the concept of the incoming of the new, and more generally the philosophical question of how to think the relationship between continuity and discontinuity, it is not only confined to the emergence of mind, but represents a categorical and metaphysical problem *per se*.

(b) *Novelty*. This general problem of “the incoming of the new,” so fundamental for British Emergentism, can be viewed as primary also for pragmatism, so that it can count as the second common trait. If I have already stressed (cf. the previous paragraph) the importance of “novelty” for Mead through Dewey’s words, consider also Schiller’s *Presidential Address of the Aristotelian Society* of 1921, which is almost entirely devoted to the philosophical problem of novelty;²¹ or, even before, James’s posthumous book *Some Problems of Philosophy*, whose last five chapters were dedicated to novelty (James 1911: 147-220).²²

For his part, Dewey also adopts the word “novelty” – whose use is so rare in both ordinary English and “philosophical” English to be considered almost a technicality – in his books. He defines it as the “emergence of unexpected and unpredictable combinations” (Dewey 1925: 281), in a sense perfectly coincident with the emergentist meaning of the word. Accordingly, if the conception of mind in evolution is the most relevant and specific issue that emergentism and classical pragmatism have in common, the relevance of novelty and the occurrence of the new is the more general trait they share. Indeed, the emergence of mind is circumscribed in this anti-mechanistic view of evolution that more generally gives room to development and change, and especially to irreducible novelty.

2.2.2. Pragmatism’s Criticism of Emergentism

All the same, Dewey and Schiller were not fully satisfied with the concept of emergence, as El-Hani and Pihlström have underlined, nor can we say that classical pragmatists’ claims can be fully identified with those of emergentism.²³ On the whole, the classical pragmatists’ critiques can be abridged in a recent quote by another famous, contemporary pragmatist, Hilary Putnam. With reference to consciousness, in 1999 he spoke of *emergence* as a “bad metaphor”:

It is a bad metaphor because it suggests that all the true statements expressible in the vocabulary of the “basic” sciences of physics, chemistry, biology [...] might have been true *without* there being consciousness or intentionality. In short, it suggests that we might conceivably have all been Automatic Sweethearts, and that it is “mysterious” that we *aren’t*. (Putnam 1999: 174)

Also from a classical, pragmatist viewpoint we can say: (a) on the one hand that it is “a bad metaphor” because of the “magical” tone that ultimately retains the idea of “emergence” (cf. also Dewey, Bentley 1949 [1989]: 45, 121),²⁴ so that it becomes a way of “blocking the way of inquiry,” to quote Peirce’s famous *motto*, on issues so fundamental as the mind-body relation; (b) on the other hand, “emergence” is “a bad metaphor” because it assumes that the primary level of reality is always there, independent from us, “ready-made,” undisputed, and uncritically accepted (cf. in this regard, Schiller 1930: 32). This second aspect has many metaphysical and ontological facets. For instance, as Pihlström pinpointed (Pihlström 2002: 155), it implies the whole debate of realism, which is the controversy of the universals (and accordingly the status of *properties*). To put it shortly, we could ask: what ontological scheme can be adopted to justify and explain something like an emergent property? Or – with reference to the

more limited issue considered in the present paper – what categories should we assume in order to think an “emergent evolution”? On those answers depends also the prospect of solution or the clarification of the problem of downward causation, which we saw in §1 is still today one of the most problematic aspects of emergentism. Furthermore, we know that pragmatic realism is at once “an inherently pluralistic and anti-reductionistic position” (El-Hani & Pihlström 2002: 24), and – as is especially the case for Peirce’s pragmatism – a continuistic standpoint.

3. Missed Connections and Common Roots: British Emergentism and Peirce

If we now restrict our analyses to Peirce, at first glance it seems difficult to make a comparison. As it has been recalled in §2.1, Peirce could not be a witness to the flourishing of British Emergentism. On what elements, then, does it make sense to speak of an “emergentist” reading of Peirce? For the sake of clarity, I will develop my investigation in two different perspectives, as I did in the previous paragraph more generally: the first is more critical-historical, while the second is more theoretical-speculative. Indeed, although there is no apparent connections between Charles Sanders Peirce and British Emergentists, they have many common roots.

3.1. A Matter of “British” Influence

Some scholars trace back “emergentism” to Ancient Greek thought and especially to Aristotle (cf. Caston 1997). Nonetheless, limiting the present investigation to the development of an “explicit” emergentist thought, it is worthwhile to note that Emergentism of the twenties has its own roots in British thought. As McLaughlin clearly indicates:

This tradition [of British Emergentism] began in the middle of the nineteenth century and flourished in the first quarter of this century. It began with John Stuart Mill’s *System of Logic* (1843), and traced through Alexander Bain’s *Logic* (1870), George Henry Lewes’s *Problems of Life and Mind* (1875). (McLaughlin 1992: 49)

Thus, the reason why McLaughlin indicated John Stuart Mill, Bain and Lewes as the fathers of emergentism is not merely a matter of historical reconstruction. Although none of them would call themselves “emergentist,” they are mentioned in the works of British Emergentists as the first thinkers of the notion of “emergence.” For instance, consider the beginning of Lloyd Morgan’s *Emergent evolution*:²⁵

The concept of emergence was dealt with (to go no further back) by J. S. Mill in his *Logic* (Bk. III, Ch. vi, §2) under the discussion of “heteropathic laws” in causation. The word “emergent,” as contrasted with “resultant,” was suggested by G. H. Lewes in his *Problems of Life and Mind* (Vol. II, Prob. V, Ch. iii, p. 412). Both adduce examples from chemistry and from physiology; both deal with properties; both distinguish those properties (a) which are additive and subtractive only, and predictable, from those (b) which are new and unpredictable; both insist on the claim that the latter no less than the former fall under the rubric of universal causation. (Morgan Lloyd 1923: 2-3)

If we then turn to C. S. Peirce, the role played by all those authors in the development of his pragmatism is well known,²⁶ and it is worthwhile to note that none of those authors, neither Stuart Mill, nor Bain, nor Lewes, had technical training in biology or

natural sciences. Peirce refers to them as logicians. Their primary concern and field of research was indeed that of logic, which was also of supreme interest for Peirce. Besides, it is not a coincidence that British Emergentism (cf. the above quotation by Lloyd Morgan) is not based so much on biological evidence. Rather it addresses the issue of the *logic* of the universe, and it seeks new conceptions, such as that of emergence, or a logical framework, in which both continuity and novelty can be admitted at once. Only in this way it is indeed possible to gain a new idea of the relationship between different realms of reality, one that works scientifically and is able to explain all natural phenomena, mind included.

To enlighten the logical side of emergent evolution might sound curious today, but this association between logic and evolutionary theories was not uncommon at all during the 19th century and the early decades of the 20th century. It is sufficient to remember on the one hand that, as stated before, Lloyd Morgan borrowed the idea of emergence from Stuart Mill's *System of Logic*, and, on the other hand, Peirce's "logical" appraisal of Darwin. To shed more light on the latter aspect, which has not yet been investigated, I will now analyze what can be considered the second common root of British Emergentism and Peirce: the evolutionary thought of Charles Darwin and Herbert Spencer.

3.2. For a "Thorough-going Evolutionism": with Darwin beyond Spencer

Generally speaking, British Emergentism can be located in between Darwin's and Spencer's theories. As Peter A. Corning summarizes:

Many theorists of that era viewed Darwin's explanation as unsatisfactory, or at least incomplete, and emergent evolution theory was advanced as a way to reconcile Darwin's gradualism with the appearance of qualitative novelties and, equally important, with Herbert Spencer's notion (following Lamarck) of an inherent, energy-driven trend in evolution toward new levels of organization. (Corning 2012: 297-8)²⁷

This notion of an "energy-driven trend in evolution," as we will see in §4, is also a feature characterizing Peirce's evolutionary thought. But the first aspect mentioned in the quoted passage should be not overlooked. Indeed, on the one hand, British Emergentism tried to "correct" Darwin's gradualism with Spencer's "energy-trend in evolution towards new level of organization," and, on the other hand, to state that they combined Darwin's gradualism with the appearance of qualitative novelties means that they proposed and promoted a non-mechanistic view of evolution and the cosmos. Lloyd Morgan pointed it out clearly in the first chapter of *Emergent evolution*:

[...] the whole doctrine of emergentism is a continued protest against mechanical interpretation [...]. The essential feature of a mechanical – or, if it be preferred, a mechanistic – interpretation is that it is in terms of resultant effects only, calculable by algebraic summation. It ignores that something more that must be accepted as emergent. [...] Against *such* a mechanical interpretation – *such* a mechanistic dogma – emergent evolution rises in protest. The gist of its contention is that such interpretation is quite inadequate. Resultants there are; but there is emergence also. (Morgan Lloyd 1923: 7-8)

Accordingly, this anti-mechanistic feature makes British Emergentism stand out against Spencer. While taking the stance of Spencer in facing Bergson's objections to Spencer's "reductionism," Lloyd Morgan himself admits, in his 1913's "Herbert

Spencer's lecture," that "Spencer tried to reduce all kinds of relatedness to one quasi-mechanical type; and he signally failed – or shall I say that he succeeded only by ignoring all the specific differences [...]" (Morgan Lloyd 1913: 18). As a consequence, British Emergentism of the early 20th century was strongly influenced and inspired both by Darwin's and Spencer's evolutionisms, but, all the same, plainly aimed at overcoming the limitations and weaknesses of the previous viewpoints. Again, overall Darwin's and Spencer's explanations seemed to lack an explanation for the incoming of the new in evolution.

Even Peirce can be construed as a "critical" appraiser of both Darwin and Spencer, insofar as he develops his own evolutionary thought as a radicalization and correction of their prominent and most common views of evolution. However, since the attention is usually focused only on their opposition (especially for Peirce vs. Darwin) by secondary literature, it is necessary to offer a more in-depth analysis on those comparisons than the one just offered for British Emergentism.

3.2.1. Peirce and Darwin

To investigate the connections between Peirce and evolutionary theories, his famous quote: "Philosophy requires thorough-going evolutionism or none" (W8: 102, 1890) immediately gives an idea of the fundamental relationship that, according to him, evolution and philosophy have in general and especially for Peirce's own philosophy. But to what extent is he actually referring to Darwin when speaking about evolutionism? In fact, Peirce explicitly says that "Everybody today is evolutionist. This is said to be the day of evolutionism" (NEM 4: 140; R 942, 1896).

First of all, the young Peirce, together with William James and others, but especially Chauncey Wright,²⁸ discussed Darwin's *The Origin of Species* in "The Metaphysical Club" (1872). But it is notorious that Peirce had a quarrel with Wright on the general interpretation to attribute to Darwin's *magnum opus*. Furthermore, generally speaking, Peirce maintained a critical attitude towards Darwin, and this is probably due to the influence of Louis Agassiz – one of the most determined opponents of Darwin in America, as some scholars have shown (cf. Wiener 1949, Skagestad 1979). Often Peirce's evolutionism is promptly classified as neo-Lamarckian (cf. for instance Reynolds 2002: 99) and, for this reason, immediately set aside as an unsupported theory.

In the light of these preliminary remarks, at first glance Peirce's evolutionary theory might be interpreted as far-off, or even contrary, to Darwin's thought. Notwithstanding, in the passages where Peirce examines Darwin's very idea of evolution, the truth of the matter is quite the opposite. For instance, Peirce wrote in *Design and Chance*: "My opinion is only Darwinism analyzed, generalized, and brought into the realm of Ontology." (W4: 552, 1884). As a consequence, taking into account such a radical, clear-cut, and unambiguous statement, Peirce's debt to Darwin seems, at least provisionally, clear and forceful. Therefore, Peirce's evolutionary thought must have drawn inspiration from Darwin, and, as a consequence, according to my view all the differences between the two authors must be construed from within this perspective of influence and proximity. Let me first consider in detail – taking into account this unequivocal, programmatic purpose of Peirce (to analyze, generalize, and bring Darwinism into ontology) – the reasons why he esteemed Darwin, so far as to identify with Darwinism or even to propose to expand it into ontology.

The first reason why Peirce was committed to Darwinism, the primary and most general one, is the relevance that Darwinism has for logic. As it was for emergentism, this assertion may sound paradoxical, but for Peirce to support evolutionism means in the first place to recognize the fundamental role that statistics, probability and fallibilism, play together in knowledge. Peirce states: “The Darwinian controversy is, in large part, a question of logic. Mr. Darwin proposed to apply the statistical method to biology.” (W3: 244, 1877). Later, in *The Architecture of Theories*, Peirce once again emphasizes the relation of Darwinism, logic, and statistics, when he talks about the Darwinian principle and the law of large numbers. He affirms:

This Darwinian principle is plainly capable of great generalization. Wherever there are large numbers of objects, having a tendency to retain certain characters unaltered, this tendency, however, not being absolute but giving room for chance variations, then [...] there will be a gradual tendency to change in directions of departure from them. (W8: 102, 1890)²⁹

Here we can detect the second fundamental reason why Peirce has a high esteem of Darwinism: the role preserved for chance or spontaneity in this system of thought. He stresses this feature, for instance in *The Doctrine of Necessity Examined*, as follows in regard to his evolutionary thought:

By thus admitting pure spontaneity or life as a character of the universe, acting always and everywhere though restrained within narrow bounds by law, producing infinitesimal departures from law continually, and great ones with infinite infrequency, I account for all the variety and diversity of the universe, in the only sense in which the really *sui generis* and new can be said to be accounted for. (W8: 122, 1891)

This general account of the universe as a place where spontaneity, chance, or novelty is acting “always and everywhere” belongs under the label of the doctrine of “tychism” or “tychasm” (from the Greek Τύχη, chance), as Peirce calls it.³⁰ This represents the key-concept for a thorough-going evolutionism, that is, for an evolutionary thought that can also explain and encompass laws and their evolution,³¹ which is representative of Peirce’s own thought. In this regard, too, he refers again to Darwin as a prominent source of inspiration:

It would seem [...] that through biological studies science may be led to modify the existing mechanical theory of the universe, which is not at all requisite to its progress, but is merely the coloring which scientific thought acquired during the period beginning with Galileo and ending with Helmholtz’s great dynamical memoir, when mechanics and allied branches of physics were the chief subjects of thought, and which in the new period that opened with Darwin is already beginning to be corrected. Many biologists are pleading today for the admission of genuine spontaneity. (N1, 176)

To this extent, that is, to the acknowledgment of *chance* as a primary and essential component of the universe, Peirce and Darwin are allied and not in opposition at all. The differences between their understandings of the universe will especially emerge in the final essay of the *The Monist* series of the 1890s, *Evolutionary love*,³² and pivot around the rendering of the evolution of the universe and the role assumed by chance within it (cf. §4). However, their proximity gets even closer when we analyze Peirce’s criticisms towards Spencer.

3.2.2. Peirce and Spencer

Peirce's quarrel with Herbert Spencer, and more generally with the doctrine of necessity or Necessitarianism, began in 1887 (cf. W6: 61-4) and continues until the end of his life. It is connected to the reason why Peirce appreciates Darwin's very idea of evolution and concerns Spencer's mechanical view of the universe. It is indeed the same reason why Peirce charges Spencer for not being a thorough-going evolutionist, or – in other words – radical enough in his evolutionism.

For Peirce the difference between his evolutionary standpoint and Spencer lies in the fact that the latter restricts “evolution to certain elements of the universe, and gives it a merely secondary position as a corollary of physical law of the ‘persistence of force’, thus making that law something absolutely inexplicable and inscrutable [...]” (NEM 4: 141, R 942, 1896). On the contrary, for Peirce laws are not absolute or inexplicable: every existent element of the universe must be evolved, and we can investigate their evolution. In a nutshell, for Peirce natural laws are historical products that are liable to evolution.³³ As he remarks in *The Architecture of Theories*: the laws of nature are “results of evolution. This supposes them not to be absolute, not to be obeyed precisely. It makes an element of indeterminacy, spontaneity, or absolute chance in nature.” (W8: 101, 1890). Not only must we admit “an element of indeterminacy” in nature to account for them, but this element of indeterminacy is in fact the only one that can account for growth and diversification. Indeed, how could a mechanical law produce diversification, variety, and heterogeneity?³⁴

Accordingly, after the historical reconstruction of the relationships of influence and divergence carried out in this paragraph, we can infer that, although Peirce was not familiar with British Emergentists, he shares with most of them a great acquaintance with the British logicians of the 20th century, who first came up with the concept of “emergence.” He also shares with them a very similar awareness and perception of the path opened by Darwinism – its great potentiality, as well as its limits and further developments. On the basis of those similarities and shared concerns, I will offer in the last part of this article an emergentist reading of Peirce's evolutionary thought, not in the sense of reducing Peirce to British Emergentism or vice-versa, but providing a line of interpretation of Peirce's evolutionary thought that is compatible with an emergentist viewpoint, or at least alternative to it. In other words, I will show how Peirce's evolutionary thought offers a valid response to the same problems that emergentism tries to address and answer.

4. An “Emergentist” Reading of Peirce's Evolutionary Thought

Although Thomas A. Goudge, in his 1973 pioneering study on pragmatism and the evolutionary view of mind, set aside Peirce by simply stating that he “gives priority of continuity” and “does not introduce the idea of emergence at all, but rather employs the idea of ‘pure spontaneity’” (Goudge 1973: 144), the hints of emergentism in Peirce's thought, as well as the feasibility of comparison between his pragmatism and British Emergentism, have recently been supported by many scholars. Among them, the first who has noted Peirce's and emergentism's proximity is Ian Hacking, who states in reference to *The Monist* series of the 90s that Peirce puts “emergentism together with

ideas of statistical mechanics, to form a new and vigorous indeterminism” (Hacking 1983: 468). From that time onwards, comparative studies have been increasing, especially in the last decades. Among others, see for instance Claudine Tiercelin’s comparison between the irreducibility of higher-level properties and the irreducibility of Thirdness (Tiercelin 1998: 13-8), or – more recently – Queiroz’s and El Hani’s article on “Semiosis as an Emergent Process” (Queiroz & El Hani 2006). Furthermore, even more relevant with regard to the present article, since I focus on the concept of emergent *evolution*,³⁵ see Philip Rose’s essay on “C. S. Peirce’s Cosmogonic Philosophy of Emergent Evolution” (Rose 2016), where a detailed, emergentist analysis of Peirce’s development of the universe from its very beginning is carried out with success. I will now provide an emergentist reading of Peirce’s evolutionary thought that is not based on his cosmogony, but rather on his categorical cosmology (that is, on his universal categories that the author uses to describe all the features of the universe) and his own “emergentist” understanding of the dynamics of evolution, which characterizes the universe at large and is still operating today.

4.1. The Place of Novelty in Peirce’s Universe

In paragraph §2.2.1. it has already been underlined that the pivotal topic for British Emergentism is to allow the occurrence of novelty in an evolutionary framework, and that the very concept of emergence addresses this issue exactly. Furthermore, in paragraph §3.2.1., it is apparent from the comparison between Peirce and Darwin that Peirce strongly claimed a place for novelty in the universe, under the label of chance or spontaneity. But what is the relevance of such a novelty within Peirce’s own philosophy? And how did he conceive it?

To answer this question, the first point to mark is that according to Peirce speaking of chance does not mean a return to some sort of vitalism. For him chance represents a way of appealing to novelty *via* statistics and also probability. As Peirce himself specifies in 1898 (*The Logic of Continuity, Reasoning and the Logic of Things*), “When I speak of chance, I only employ a mathematical term to express with accuracy the characteristics of freedom or spontaneity” (RLT: 261, 1898). The reasons why he insists that novelty, as *chance*, must be admitted into any account of the universe are summarized in four “positive arguments”: (a) the prevalence of growth as opposed to the conservation of energy; (b) the variety present in the universe; (c) feeling; and (d) the explanation of law (cf. §3.2.2.) (CP: 6.613, 1893).

Taking into account the role assigned by Peirce to chance, and that Darwinism is a kind of tychism (cf. §3.2.1.) – that is, an evolution by chance – we could tend to think that Peirce’s evolutionary hypothesis is that of tychism too. However, even if Peirce continues to insist until the end of his life on chance as a real factor of the universe (cf. R 200, CP 6.322, c. 1908), his standpoint is more elaborated, because he explicitly refuses the label of “tychism” or “tychasm” for his own philosophy. Thus, in order to understand better his own position as favorable to chance but not reducible to tychism, it can be helpful to follow again the comparison with Darwin to see where Peirce’s view diverges.

Indeed, although the year before, in *The Architecture of Theories*, Peirce’s interpretation of Darwinism was quite generous, in *Evolutionary Love* he considers Darwin only to the extent that the latter represents an eminent instance of a certain egoistic, political-

economical perspective, which Peirce believes is dominant in the 19th century. In this sense, Peirce states that [Darwin's] hypothesis was "without dispute one of the most ingenious and pretty ever devised," "but the extraordinarily favorable reception it met with was [...] because of the encouragement it gave to the greed-philosophy" (W8: 191, 1982).³⁶ In this regard, the point he criticized the most was that of natural selection, conceived of "the survival of the fittest."³⁷ But the other reason – a more general one – why Peirce dissociates himself from Darwin in this article is that he clearly rejects what he calls *tychasm*, or – better yet – *tychastic* evolution, that is, evolution by fortuitous variation, or chance.

But how is that possible, given the relevance Peirce attributes to chance? In the answer to this question lies the great affinity of Peirce and British Emergentism. But, to understand this apparently shift of mind with regard to Darwin, I must first introduce and briefly touch upon the three possible modes of evolution that Peirce pointed out in *Evolutionary Love*.³⁸

4.2. Emergence as Novelty in Evolution: Evolutionary Love

According to Peirce we can detect three different kinds of evolution: *tychastic* evolution, or *tychasm*, *anancastic* evolution, or *anancasm* (from the Greek ἀνάγκη, necessity), and *agapastic* evolution or *agapasm* (from the Greek ἀγάπη, cherishing love). Roughly speaking, the first is evolution "by fortuitous variation," the second is evolution by "mechanical necessity," and the third is evolution by what he calls "creative love" (W8: 194). The correspondence is apparent between those three kinds and Peirce's three categories, or – as he defines them – his three "important metaphysico-cosmical elements" (EP2: 164, 1903). Namely, Firstness (that stands for chance, spontaneity, freedom), Secondness (referring to reaction, brute facts), and Thirdness (that stands for the category of habits and continuity). Peirce himself affirms that *agapasm* "is the sort of evolution which every careful student of my essay "The Law of Mind" must see that synechism calls for" (W8: 186).³⁹

More in detail, *tychastic* evolution is "a mode of evolution in which the only positive agent of change in the whole passage from moner to man is fortuitous variation" (W8: 190). *Ananchastic* evolution, or evolution by mechanical necessity, consists mainly in the "development under the pressure of external circumstances" (W8: 199), such as natural catastrophes, as is suggested for instance by Clarence King. In other words, we speak of *ananchasm* for every theory that attributes "all progress to an inward necessary principle, or other form of necessity" (W8: 191).

However, before moving to the account of *agapasm*, it is worthwhile to note that even in this essay Peirce does not deny the importance and role of chance. It is in this essay in fact where the famous expression "chance begets order" (W8: 190) is found. Thus, far from repudiating chance, Peirce calls into question the fact that it is the only "positive agent" of growth and evolution. As he states: "In genuine *agapasm* [...] advance takes place by virtue of a positive sympathy among the created springing from continuity of mind. This is the idea which *tychasticism* knows not how to manage." (W8: 195). Accordingly, for Peirce the limit of *tychasm*, of evolution by chance, is that it fails to give an account of continuity, of sympathy, and of the creative power of love itself. Instead, *agapasm* does encompass chance, but assigns to it a role subsidiary to the propulsive movement proper to love.

More in detail, for Peirce *tychasm* cannot explain the “vital freedom which is the breath of the spirit of love” (W8: 195), or – more in detail – “the bestowal of spontaneous energy by the parent upon the offspring, and, second, [...] the disposition of the latter to catch the general idea of those about it and thus to subserve the general purpose” (W8: 194). From those passages, the profound connection between love and continuity is announced: love and sympathy testify to continuity and represent the only feasible path for continuity to evolve and grow, making something new emerge. Accordingly, we find a new kind of novelty here: one that is not merely coincident with chance but also brought about by continuity, through love. For this reason *agape*, cherishing love, seems to Peirce the best option for *synechism*: it is what makes the evolution of a continuous world conceivable. More in detail, Peirce describes this movement of love as circular: “The movement of love is circular, at one and the same impulse projecting creations into independency and drawing them into harmony” (W8: 185). This movement is twofold: on the one hand, it “projects creations into independency,” it makes novelties happen, and, on the other hand, it drives them to harmony.⁴⁰

Therefore we face two kinds of novelty in Peirce’s evolutionary thought. The first one is chance or pure spontaneity, that is, novelty conceived *per se*, in its own originality and pureness. But there is another kind of novelty in nature: one that is made possible only through the vital continuity of the cosmos. If the common way of understanding continuity is one that excludes novelty or emergence (cf. for instance Goudge 1973), Peirce’s concept of continuity, and especially of *agapastic* evolution, discloses a different possibility. For Peirce, continuous evolution is not subjugated to any mechanical law, and in this sense it can be viewed as open to novelty. But Peirce does not limit it, he goes further when he speaks of the propulsive power of love and *agapasm*.

Indeed, the fact that *agapastic* evolution admits and implies chance without recognizing it as the main agency of evolution means that Peirce associates a new “kind of novelty” with creative love, one that is not at all reducible to Firstness. Peirce describes this creative side of *agapasm* by opposing *tychasm* to genuine *agapasm*. He states, “in a genuine *agapasm* [...] advance takes place by virtue of a positive sympathy among the created springing from continuity of mind” (W8: 195). Thus, it is evident that the advance of the universe is not to be attributed to chance but to sympathy. Chance exists and operates in nature – there is always room for arbitrariness and absolute originality – but what makes the universe grow is this projecting impulse of love, its creative power. Peirce describes sympathy in these pages as surrounding the whole universe.

As a consequence, if he states that “once you have embraced the principle of continuity no kind of explanation of things will satisfy you except that they grew” (CP 1.175, 1893), it must be highlighted that until *agapasm* is taken into account it is hard to explain *how* they grow. In this way, Peirce’s description of love offers an explanation or at least a hypothesis that explains these indisputable elements of experience and nature, such as growth and novelty. In short, what Chance (Firstness) cannot account for is the kind of novelty that continuity carries with it, that is, “the vital freedom which is the breath of the spirit of love” (W8: 195). This theory of *agapastic* evolution is really akin to British Emergentism, or at least can be considered as an emergent theory, because it points exactly to that peculiar intertwinement of continuity and novelty that emergence is. In fact, this *agapastic* view of evolution offers a “positive” description of emergence, that

is, of how novelty has been brought about. It also offers a new conceptual model for understanding “downward causation,” since in Peirce’s view Thirdness always implies a “return-effect” on Firstness and Secondness. Indeed, Thirdness needs them to operate without being reducible to them.⁴¹

A final objection to this hypothesis can be raised and must be addressed: *agapism* can ultimately be viewed, and is generally viewed, together with Peirce’s sharp criticism of Darwin’s “Gospel of Greed,” as very suggestive, but unfortunately *unscientific* and *hard to support*. (1) On the first charge of being too “poetic” or “anthropomorphic,” and unscientific, let me reply with Peirce’s own words, when he says that:

I hear you say: “All that is not fact; it is poetry.” Nonsense! Bad poetry is false, I grant; but nothing is truer than true poetry. [...] Every scientific explanation of a natural phenomenon is a *hypothesis that there is something in nature to which the human reason is analogous*; and that it really is so, all the successes of science in its application to human convenience are witnesses. They proclaim that truth over the length and breadth of the modern world. (EP2: 193, *italics mine*, 1903)

(2) With regard to the presumed difficulties in supporting such a position, it seems to me that even a rapid glance at the most recent studies in evolutionary biology⁴² makes us realize how up-to-date Peirce’s standpoint is. Without pretending that Peirce’s theory is a biological one, and instead considering it a philosophical and conceptual framework within which biological standpoints can be founded and developed, see for instance Martin A. Nowak’s theory, which clearly indicates cooperation as the third fundamental principle of evolution, along with mutation and selection (cf. Nowak & Highfield 2012).

As a conclusion, after this historical and theoretical investigation, we can clearly see how much the “typical emergentist” problem of the relationship between the continuity of evolution and the appearance of novelty lies at the very heart of Peirce’s evolutionary hypothesis (namely, *agapasm*). In this way, *apagasm* can pave the way for an original, “positive” description of the emergence of novelty, and offers new philosophical and conceptual tools to re-think downward causation, thereby opening new paths of dialogue between philosophy and biology.

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NOTES

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1. Cf. C.S. Peirce, R 408, CSP 173; CP 7.467, 1893. In the cited passage the author defines every concept as the "the living influence of a *diagram* or an *icon*, with whose parts are connected in thought an equal number of feelings or ideas."

2. Cf. Kauffman 2019; Seidel & Greve 2017; Corradini & O'Connor 2010; Bedau & Humphreys 2008; Clayton & Davis 2006; Pihlström 2002; Kim 1999; Stephan 1999; Beckerman, Flohr & Kim 1992.

3. Added by me, in line with Bennett-Hunter's previous paragraphs.

4. A third possibility can be added in this regard, that of "nominal emergence," that refers to the general properties of a system or a complex totality. Thus, with nominal emergent phenomena we refer to a "macro" property, as opposed to a "micro" property. Due to the rare adoption of this concept in current debates, I will not take it into account (Cf. Corradini & O'Connor 2010: 48-51).

5. Bedau & Humphreys (2008: 5). Among the first supporters of the epistemological conception of emergence see Hempel & Oppenheim 1948.

6. Bunge (2003: 14).

7. I adopt the very general word “phenomena” to indicate everything we can call “emergent.” Another key problem of emergentist debates is indeed whether “emergent” are substances, or qualities, properties, entities, processes, etc.

8. Cf. Bedau (1997: 375-99).

9. Cf. Kim (1999: 20-4). The following list is my synthesis of the claims pointed out by Kim. S and W indicates if strong (S) or weak (W) emergence supports the tenet described.

10. Samuel Alexander is actually Australian-born. Furthermore, even if Rudolph Metz in *A Hundred Years of British Philosophy* affirmed that Lloyd Morgan and Alexander were the first recognized as founders of British Emergentism (cf. Metz 1938: 653-62), the three of them are currently recognized as the British Emergentism’s exponents (cf. especially Stephan 1992; McLaughlin 1992).

11. This period corresponds to the third (of fourth) phases of the history of emergentism pinpointed by Stephan: “I call this rather long period the third phase: it starts in 1926 where at the “Sixth International Congress of Philosophy” theories of emergence were on the rampage getting their own section with lectures by Hans Driesch, “Emergent Evolution,” Arthur O. Lovejoy, “The Meanings of ‘Emergence’ and its Modes,” and W. M. Wheeler, “Emergent Evolution and the Social.” In the same year the Aristotelian Society organized a symposium on “The Notion of Emergence.” Speakers were E. S. Russell, C. R. Morris and W. L. Mackenzie. Stephen C. Pepper’s article “Emergence” was published the same year. In the following decade W. T. Stace, “Novelty, Indeterminism, and Emergence” (1939), P. Henle, “The Status of Emergence” (1942), and G. Bergmann, “Holism, Historicism, and Emergence” (1944) discussed the notion of emergence in consideration of the presumably related concepts of novelty and non-predictability. Even the articles of C. W. Berenda, “On Emergence and Prediction” (1953), and A. Pap, “The Concept of Absolute Emergence” (1952) belong to the third phase. The discussion of emergence came to a temporary end with the work of C. G. Hempel and P. Oppenheim, “Studies in the Logic of Explanation” (1948), and E. Nagel, *The Structure of Science* (1961)” (Stephan 1992: 26).

12. If we consider also pragmatism outside of the US, Schiller should also be mentioned. Cf. the following paragraph.

13. James is often cited in their works, from the *Principles* and later works. In Alexander’s *Space, Time and Deity*, he is especially referred to in relation to Alexander’s investigation of categories, to spatial and temporal relations, the concept of mind and its connection to bodily actions, and even his notion of “novelty,” a pivotal concept for emergentism (cf. Alexander 1920 vol. i: xx, 94, 107, 113, 116-8, 165-7, 238-9, 247-9; vol. ii: 193, 323-4, 342, 376-8, 407, 423; Lloyd Morgan 1923: xii, 74 – those are quotations of James’s “The Meaning of Truth” –, in addition we should also consider James’s influence on Lloyd Morgan as psychologist; Broad 1925: 118-20 on James’s “evolutionary argument” on the action of mind on body and 558, 571 on the unity of the self).

14. On the relation between pragmatism and emergentism from a historical perspective see especially Stephan (1999: 134-8); El-Hani & Pihlström 2002; Pihlström 2002; Sawyer 2002; Doat & Sartenaer 2014; Baggio 2015.

15. As for Dewey, Schiller also has a critical approach to the notion of emergence. He recognizes its role and function but does not accept it due to its ambiguity. Cf. the following paragraph and footnote 14.

16. Together with “emergentism,” Murphy also quotes A. N. Whitehead and his speculation, both epistemological and metaphysical, together with some theories of relativity. With this regard, Alfred North Whitehead can be properly indicated as the mediating figure between British Emergentism and classical pragmatists, that is, Dewey and above all Mead (cf. Mead 1932; Henning, Myers & John 2015).

17. Roughly speaking, to characterize their “emergentism,” we may say that Mead’s emergentism is distinguishable for its social and linguistic characteristics, since he focuses on the social and linguistic character of the self. In a nutshell, for Mead the self emerges from the social structure,

as well as from language (cf. Mead 1932, 1934). Dewey's emergentism, instead, is basically connoted by a theory of meaning and action as emergent from the dynamical interplay of environment and subjects (Dewey 1925).

18. Besides, of course, they did make use of the concept of emergence. Goudge specifies: "Dewey and Mead used the category of emergence. Its negative function was to resist the classical thesis that (1) since mental phenomena now exist, they must have been implicitly or potentially present in evolution from the very start; and (2) their potential presence played an active part in their later realization, and was not merely an abstract possibility. Both constituents of the classical thesis, according to Dewey, are gratuitous assumptions which can be avoided if we take seriously the continuous cumulative nature of any developmental process, for example, growth from infancy to maturity." (Goudge 1973: 142).

19. For the same reason, a "pragmatic turn" (Bernstein 2010; Engel, Friston & Kragic 2016) has recently been identified in philosophy of mind and cognitive sciences. Indeed, against the traditional representational view of cognition, a new action-oriented paradigm has been privileged in the last decade, and the theories of inactive and extended mind, together with embodied cognition, are without doubt the closest to pragmatism. Cf. especially Madzia & Jung 2015; Caravà 2015; Fabbrichesi 2016; Viola 2016; Gallagher 2017.

20. Under the strong influence of Henri Bergson, cf. footnote 21.

21. Schiller states: "[W]e have tonight to consider the most detested of subjects, which runs odiously counter to every instinct and every habit of every being, animate and inanimate. Even a desperado like myself would hardly have dared to intrude it upon a gathering of respectable philosophers, if he could not quote precedents and claim support; if, that is, the greatest of living metaphysicians had not so effectively pleaded for a revision of the old Eleatic verdict, to which nearly all philosophers have assented with such uncritical docility and unthinking enthusiasm, that no place need be made for Novelty in our philosophies, because Novelty is as such ultimately unthinkable and impossible. Perhaps M. Bergson's greatest achievement is to have shaken this prejudice, and to have made Novelty a good philosophic problem. It is no longer mere impertinence to inquire into Novelty, to ask philosophers to recognize its existence, to beg them to analyse why they hate it and won't, and to insist that, whether they hate it or not, they have got to have it. [...] Novelty is ineluctable and we are all so constructed as to experience it, and the world is continually generating it, it may be more reasonable, or at least more sensible, to try to understand it than to try to ignore it." (Schiller 1921-22: 1-2). With reference to novelty, Alfred North Whitehead also had a crucial role for the place assigned to novelty in his philosophy and cosmology. Indeed, he declares in *Process and Reality* (1929) that the ultimate of his philosophy is "creativity," defined as "the principle of novelty" (Whitehead 1929 [1979]: 21).

22. More in detail, Chapter IX is entitled "The Problem of Novelty," and there the issue of novelty is introduced, in connection to some major topics: perception, science, personal experience and the infinite; Chapter X, "Novelty and the Infinite - The Conceptual View," scrutinizes discontinuity and continuity theories, in particular Zeno's, Kant's and Renouvier's views; Chapter XI, "Novelty and the Infinite - The Perceptual View," undertakes an analysis of the new concept of the infinite and investigates the perceptual experience of novelty and its conceptual consequences"; similarly, Chapter XII and XIII ("Novelty and Causation - The Conceptual View," "Novelty and Causation - The Perceptual View") analyze novelty and causation both from a conceptual perspective and a perceptual one; the former chapter takes into account the concepts of causality of Aristotle, Scholastics, Occasionalism, Leibniz, Hume, Kant, Positivism, and deductive theories; and the latter tackles the perceptual experience of causation, with reference to the arising of novelties.

23. For a more detailed analysis of pragmatism (both classical and contemporary) on emergentism cf. El-Hani & Pihlström (2002: 26-32); Stephan (1999: 134-8).

24. Quoted in El-Hani & Pihlström (2002: 28).

25. However, Bain is clearly not explicitly mentioned here.

26. For J. S. Mill, Peirce's interest in his logic and scientific methodology, as well as the latter's criticism of Mill's nominalism, is clearly stated from the sixties onwards (cf. for instance the Harvard Lecture on Whewell, Mill, Comte in 1865, but more generally all the occurrences present in both *Writings* and manuscripts. Very significant is also how Peirce understood the connection/opposition between Mill and Darwin (cf. EP2: 158, 1903). For a critical examination on Mill and Peirce see Smyth 1985. For Bain we face a similar situation, given the massive presence of references in Peirce's *opus*. Probably his most notorious influence is on the concept of the pragmatic maxim. Cf. for instance R 325, *Pragmatism made easy*, (unav.es/gep/PragmatismMadeEasy.html), transcribed by Juan Pablo Serra: "The particular point that had been made by Bain and that had most struck Green, and through him, the rest of us, was the insistence that what a man really believes is what he would be ready to act upon, and to risk much upon," and cf. overall Fisch 1954. The only exception in terms of Peirce's acquaintance is probably Lewes, although his work, *Problems of Life and Mind* is quoted just after Peirce's entry on "emergent year" in the Century dictionary (Peirce 1889-1891: 1897). Besides, Peirce not only quoted Lewes's work on Aristotle in his lectures on British Logicians (W2: 315, 1869), but carefully considers Lewes's standpoint in his "Grand Logic" (cf. R 400, CSP 45, 1893-95), quoting from the first volume of Lewes's *Problems of Life and Mind*.

27. We will tackle again these two elements in the following paragraph, where we will consider in detail Peirce's view of evolution, namely *agapasm*. On Spencer's account see Blitz (1992: 24-34); and (*ibid.*: 94-5) on Lloyd Morgan and Spencer.

28. Cf. Wiener (1949, Chapter 3), and Parravicini 2012.

29. Since Peirce's approach to Darwin is highly "logical," I think that a question may naturally arise: to what extent does what Peirce said about Darwin really refer to Darwin's thought? Indeed, we might think that the American philosopher is far from the real contents of Darwin's thought, but – if we extend our consideration to recent developments of evolutionary biology, or at least to the modern synthesis, we will surprisingly discover that Peirce was much closer to the mark than we would have expected. With this regard consider that Ernst Mayr, one of the leading exponents of the modern synthesis, in explaining why the "usual physicalist ideas" are not applicable to biology, emphasizes how, from Darwin onwards, biology needs (1) to abandon essentialism and typological thinking, (2) to dismiss deterministic laws and accept the absence of universal laws (in biology), and 3) to reject physicalist reductionism (cf. Mayr 2005: 27).

30. For a more detailed analysis of the relevance of tychism for Peirce see the last paragraph (§4).

31. In this regard, it is worthwhile to note how Peirce underlines as primary the logical soundness of his standpoint. He wrote after the quoted passage: "The superior logic of my view appears to me not easily controverted." (W8: 122, 1891).

32. Cf. also Peirce's Lowell Lectures on the History of Science (1892) and the "Reply to the Necessitarians" (1893).

33. Although such statements do not appear strange today, in the 19th century they are very uncommon. After relativity, quantic physics, and more broadly after the flourishing of auto-critical reflections by scientists in the 20th century, we are indeed quite accustomed to the "relative" and "historical" side of science. But, at that time, by emphasizing these aspects, Peirce was breaking with the past and with the philosophical tradition. Cf. for instance what Emerson states in *Nature*, though the power of chance also receives considerable attention in his philosophy: "Any distrust of the permanence of laws, would paralyze the faculties of man. Their permanence is sacredly respected, and his faith therein is perfect. The wheels and springs of man are all set to the hypothesis of the permanence of nature." (Emerson 1836: 48).

34. On the connection between evolution, natural laws as mechanical, and fallibilism cf. also R 955 CSP 37, CP 1.174, c. 1893: "Evolution means nothing but growth in the widest sense of that word. Reproduction, of course, is merely one of the incidents of growth. And what is growth? Not

mere increase. Spencer says it is the passage from the homogeneous to the heterogeneous – or, if we prefer English to Spencerese – diversification. [...] And yet mechanical law, which the scientific infallibilist tells us is the only agency of nature, mechanical law can never produce diversification.” And R 1274a, ISP 8, 1892: “If all things result from evolution then law must be conceived as such a result. But a law which is in process of development is not absolute. Therefore, thoroughgoing evolutionism is essentially & unavoidably hostile to necessitarianism, as the doctrine that all events are necessary a precise result of law.”

35. Indeed my investigation is limited to the concept of “emergent *evolution*,” and I did not take into account, for instance, the emergence of mind.

36. Peirce refers to the “Gospel of Greed” as the general “conviction of the nineteenth century is that progress takes place by virtue of every individual’s striving for himself with all his might and trampling his neighbor under foot whenever he gets a chance to do so” (W8: 189).

37. A phrase that, after all, belongs to Spencer and not to Darwin.

38. I chose to focus especially on *Evolutionary Love* because in my view it represents the best place where the complexity of Peirce’s standpoint on evolution appears, and where we can understand more clearly how Peirce’s concept of evolution tries to keep together continuity and creativity, or novelty.

39. For an introductory definition of synechism: “Materialism is the doctrine that matter is everything, idealism the doctrine that ideas are everything, dualism the philosophy which splits everything in two. In like manner, I have proposed to make synechism mean the tendency to regard everything as continuous.” (CP 7.565, c.1892); one of the most eminent examples in this regard is the new synechistic conception of world and mind. Peirce states: “We naturally make all our distinctions too absolute. We are accustomed to speak of an extend universe and an inner world of thought. But they are merely vicinities with no real boundary between them.” (R 400, CSP 78-79, 1893-95).

40. The second part is connected to the function of habit, another indispensable element of Peirce’s *agapasm*, though it cannot substitute the propulsive energy of love. Indeed, the force of habit is what makes the novelty effective, giving a certain direction to it. Cf. in this regard Peirce’s clear-cut disambiguation when speaking of Lamarck: W8: 192-3. I will not consider Peirce’s references to Lamarck, not because I overlook them, but because they need a full, separate, extensive analysis.

41. As Peirce underlines in 1898: “[...] I chiefly insist upon continuity, or Thirdness, and in order to secure to Thirdness its really commanding function, I [find it indispensable] that is a third, and that Firstness, or chance, and Secondness, or Brute reaction, are other elements without the independence of which Thirdness would not have anything upon which to operate.” (R 948, RLT, 261, 1898).

42. Cf. Nowak & Highfield 2012, but also West, Griffin & Gardner 2007, and Tomasello 2009.

ABSTRACTS

The present paper proposes an emergentist reading of Peirce, with special reference to his concept of evolution. Although the author never adopts the word “emergence” in a technical manner, it will be demonstrated that the core problem of emergence lies at the heart of his evolutionary doctrine, generally displayed by the interplay of his three well-known categories of Firstness, Secondness and Thirdness. Indeed, although the Classical pragmatists most quoted in

connection to emergentism are Dewey and Mead (and William James to some degree), scholars have recently suggested some emergentist readings of Peirce's thought (cf. above all Tiercelin 1998, Quieroz & El-Hani 2006, Rose 2016), in particular with regard to semiotic process and cosmogony. Exploring further the path opened by those researches, the present paper aims to clarify the theoretical problem of emergent evolution from a pragmatist perspective and especially to illustrate Peirce's emergentist standpoint. In order to reach this goal, the article is divided into four parts: after (1) a brief introduction to the contemporary debates on emergence, (2) I give a historical overview of Classical Pragmatism and British Emergentists, (3) with a special focus on the common roots of the British Emergentists and Peirce on evolution. Finally, (4) I offer an emergentist reading of Peirce's theory of evolution. In particular, I show how his strong emphasis on chance and the "growth" of the universe go together with his arch-stone of *synechism* (that is his theory of continuity), through what he calls *agapasm*.

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Emergent Sign-Action

Classical Ballet As A Self-Organized And Temporally Distributed Semiotic Process

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AUTHOR'S NOTE

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Introduction: Overall Argument

In this paper, we explore C. S. Peirce's pragmatic conception of sign action as a temporally distributed and emergent process.¹ We illustrate our argument through the emergence of classical ballet as a semiotic process. Pragmatism was originally formulated by Peirce as a theory of meaning, a methodological principle or rule to clarify ideas, concepts and propositions (Hookway 2002; Legg & Hookway 2019). This principle states that the meaning of a sign implies likely events to occur in a course of experience, according to a set of antecedent conditions (CP 5.468). In this formulation, meaning is an open ended process, constrained by likelihoods, but open to novelty. The meaning of a sign is not a given content nor an essential form, but emerges as a habit of sign action.

Semiosis emerges (see Queiroz & El-Hani 2006a,b). The emergence of a sign in action is the emergence of an autonomous, or self-organized, habit. Self-organization is a process that leads a complex system towards dynamically stable states of increased redundancy and reduced variability. In our description, stability is not absence of change (stasis), but regularity through change (Kelso 1995). Peirce's theory is compatible with the notion of self-organization, especially when we consider how semiotic habits stabilize communication within a system (a community) of utterers and interpreters, through self-correcting dynamics and circular relations within that community (Loula & Queiroz 2011). New habits of sign action emerge from previously existing sign action in a cultural evolutionary process. Out of semiosis that follows

some stability and tendency of development, new habits become stabilized and begin to develop autonomously. In our description, this corresponds to the emergence of a distributed cognitive system of agents and artifacts which both enacts this habit and is regulated by it (Atã & Queiroz, in press). An example is the historical emergence of classical ballet. Classical ballet is a habit of sign action: a codification of dance steps that disciplines bodies and stabilizes their communicative behavior within a community of utterers and interpreters. The historical emergence of classical ballet is a self-regulatory process, in which a system of different kinds of cognitive artifacts (musical, bodily/motor, visual, spatial/architectonic) and agents obtained a stable semiotic relation throughout many phases of development between the 16th and 19th Century. This is not only emergence of *actual* meaning, but also, emergence of an open-ended niche of potential and general meaning processes, an autonomous tendency of development or a pragmatic likelihood of occurrences.

Meaning and Habit

Peirce is the founder of modern semiotics, the doctrine of the essential and fundamental nature of all varieties of possible meaning processes [i.e., semiosis, or sign action] (CP 5.484). Semiotics describes and analyzes the structure of sign action independently of their material bases, or of the conditions under which they can be observed: inside cells (cytosemiosis), among tissues and cell populations, in animal communication (zoosemiosis), or in typically human activities (production of notations, metarepresentations, etc.). In other words, Peirce's concept of semiotics concerns a theory of signs in its most general sense (Fisch 1986: 321). Peirce conceived general semiotics much like a formal science as mathematics is (CP 2.227). However, semiotics finds the objects of its investigation in the sign's concrete, natural environment and in "normal human experience" (CP 1.241). In our example, the object of investigation is the emergence of classical ballet.

An approach to meaning that focuses on the action of signs can be contrasted to approaches that focus either primarily on the sign itself (formalist and structuralist approaches) or on the sign-user (psychological, neurocognitive, anthropological and sociological approaches). Semiosis is a concept that describes the most fundamental relations involved in processes of meaning and cognition, as opposed to reactive, brute-force processes (EP 2:646). The difference between semiotic and non-semiotic processes is that non-semiotic processes can be decomposed into dyadic or reactive processes, while semiotic processes are irreducibly triadic (Houser 1997: 16; Burch 1997; Brunning 1997). Any description of semiosis should necessarily treat it as a relation constituted by three irreducibly connected terms – sign, object, interpretant (S-O-I, in short), which are its minimal constitutive elements (CP 5.484, EP 2:171).

[...] by "semiosis" I mean [...] an action, or influence, which is, or involves, a cooperation of three subjects, such as a sign, its object, and its interpretant, this tri-relative influence not being in any way resolvable into actions between pairs. (CP 5.484)

Triadic irreducibility is a requirement of any process that we might regard as "cognitive," "representational," or related to "meaning" – "A sign, or representamen, is something which stands to somebody for something in some respect or capacity" (CP 2.228). The expression *stand for* is metaphorical. This "standing for" relation involves a constraining or regulation of S (sign) by O (object) (S is understood in relation to O)

(Atkin 2016). I (interpretant) in S-O-I is an effect produced in a cognitive system by the use of S as constrained by O. Semiosis is an irreducible process through which a constraining factor (O) acts on interpretative behavior (I) because of the mediation of a certain entity (or group of entities) or process (S).

It is important to stress that there are no intrinsic attributes defining the ontology or the spatiotemporal existence of S, O, or I. They are not necessarily phenomenal contents, intentional contents, mental representations, concepts, thoughts, etc. The role of S can be identified only in the mediative relation that it establishes between O and I. Similarly, the role of O is identified in the relation by which it determines I through the mediation of S. And, finally, the role of I is identified by the fact that it is determined by O through S. Therefore, if we consider only dyadic relations, S-I, S-O, or I-O, or the elements in isolation, we cannot deduce how they would behave in a triadic relation, S-O-I (EP 2:391). Irreducibility of semiosis should be understood in terms of the non-deducibility of the behavior of the logical-functional elements of a triad on the grounds of their behavior in simpler relations.

Peirce also defined a sign as a medium for the communication to the interpretant of a “form” embodied in the object, so as to constrain or regulate, in general, the interpreter’s behavior (MS 793:1-3, EP 2.544, n.22). Form is defined as having the “being of predicate” (EP 2.544) and it is also pragmatically formulated as a “conditional proposition” stating that certain things would happen under specific circumstances (EP 2.388). For Peirce, form is nothing like a “thing” (De Tienne, 2003), but something that is embodied in the object (EP 2.544, n. 22) as a habit, a “rule of action” (CP 5.397, CP 2.643), a “disposition” (CP 5.495, CP 2.170), a “real potential” (EP 2.388) or, simply, a “permanence of some relation” (CP 1.415). Form can also be defined as potentiality (“real potential,” EP 2.388). According to Flower and Murphey, there is a transition in Peirce’s semiotics from the notion of meaning as a qualitative conception carried by a sign to a relational notion according to which the meaning of a concept consists in a “law relating operations performed upon the object or conditions of perceptions to perceived effects” (Flower & Murphey 1977: 589). The qualitative conception involves reference to the sign’s ground, while the “law” or necessary conditions of perception are relational rather than qualitative – “If the meaning of a concept of an object is to consist in the conditionals relating operations on the object to perceived effects, these conditionals will in fact be habits” (Flower & Murphey 1977: 590).

The notion of habit occupies a central position in Peirce’s pragmatism (Hookway 1985; West & Anderson 2016; Atã & Queiroz 2016). Habit entails a disposition to act in certain ways under certain circumstances, especially when the carrier of the habit is stimulated, animated, or guided by certain motives (CP 5.480). The meaning of a Peircean sign is most adequately understood through the habits of action they provoke, sustain, and modify. When somebody says a diamond is “hard,” that person means that a diamond’s nature includes the ability to cut glass and other substances. That person’s disposition to conceive of a diamond in this way – rather than conceiving it for ornamental purposes – constitutes, pragmatically, what “hardness” means, and “diamond” means in terms of its characteristics and its nature. If that person had once considered diamonds strictly in terms of rare gems and ornamentation, then the characteristics and nature of diamonds were previously something other than they now are. Consequently, the meaning of “diamond” changed when a diamond became a means for qualifying “hardness.” This is to say that the notion of semiosis as form

communicated from O to I through mediation of S allows us to conceive of semiosis, and meaning and meaning change, in a non-substantive, processual way, as a constraining factor of possible patterns of interpretive behavior through habit and change of habit (Queiroz & El-Hani 2006a).

Let's consider our main example. Classical ballet is a semiotic process endowed with meaning. Any ballet performance is an instantiated sign, composed of several signs, and which determines interpretive effects according to some regularity. In any ballet performance, a sign acts according to a regular habit that connects sign (performance), object (in a most general description, the "form" of ballet itself that regulates how signs behave), and interpretants (interpretive effects, for example on the audience). From the 16th to the 19th century, the ballet sign has taken several habits that regulate sign action, such as the codification of a vocabulary of dance steps with a specific nomenclature and notation, the establishment of the proscenium arch stage as the preferred technology regulating performance space, the standardization of training techniques and consequent relative regularization of the skills, bodies, and abilities of professional dancers, etc. All of these are cases in which variability has been decreased and redundancy increased, so that sign action becomes more regular. They all are part of what makes classical ballet a sign in action, endowed with a potential to further produce interpretants.

Semiosis is Temporally Distributed

Semiosis is part of an always ongoing process of communication, a "chain of triads" (see figure 1). S-O-I is the focal-factor of a dynamical process (Hausman 1993: 72). A sign in a given S-O-I triad will lead to the production of an interpretant, which, in turn, is a new sign in relation to the object of S. That is, an interpretant is both the third term of a previous triad and the first term (sign) of a subsequent triad (Savan 1988) (figure 1).

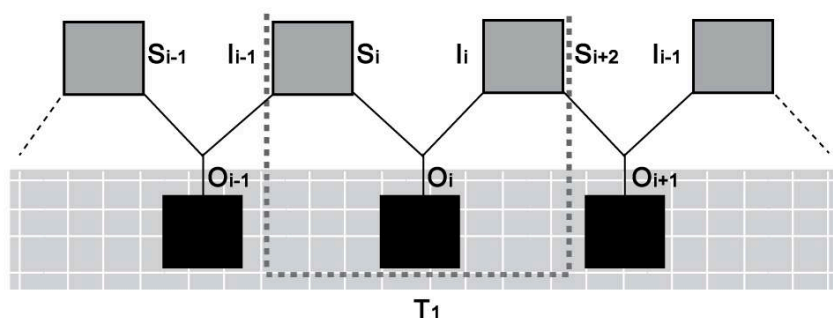


Figure 1: The triadic relation S-O-I forming a chain of triads.

Semiosis is a dynamic process, with signs continuously translating into other signs, in time. The mode of existence of a sign is to produce interpretative effects which are new signs. A single person thinking to herself already embodies a dynamic process of semiosis. This temporal distribution of semiosis is a central aspect of Peirce's semiotics:

To say, therefore, that thought cannot happen in an instant, but requires a time, is but another way of saying that every thought must be interpreted in another, or that all thought is in signs. (CP 5.253)

Semiosis is temporally distributed, a time-dependent action of signs which develops in several historical and evolutionary scales. To describe a habit of sign action is to describe a dynamic process involving past and future: a relation, developing in time, between a cumulative generalization of a past history of sign actions and a likelihood that this history will somehow regulate future sign actions. In this framework, stability of semiosis in time is not understood as an instantiation of representational states in a system but as regularity of sign action throughout communication. A habit doesn't entail stasis, but regularity throughout change.

Classical ballet entails semiotic chains in several different time scales. An instantiated sign of ballet, such as a ballet performance, has the power of generating new signs: a ballet performance generates interpretative effects in an audience, which develop into a critic literature about that performance, which in turn generates more interpretive effects, and so forth, constituting traditions of critique and discourse as sequences of reinterpretations and retranslations of ballet signs. Ballet performances also generate all sorts of artworks in different media (including other ballet performances) that dialogue with it by making reference, reinterpreting themes, taking inspiration, reacting aesthetically, and so on. But we don't need to consider only instantiated ballet performances as examples of how ballet entails semiotic chains. The body of the ballet dancer is a sign, being reinterpreted and translated throughout the history of ballet. The baroque courtier dancer of the 17th century is a sign endowed with a potential to generate interpretants. It gets translated into the professional academic dancers, the dancers of different ballet schools, all the way to modern and contemporary dancers. What connects all of these dancing bodies is a temporally distributed semiotic process, a semiotic chain that communicates some balletic forms so as to generate new ballet signs.

This process also entails an interplay between redundancy and novelty, a negotiation of the stability of semiotic habits. One of the most stable habits of classical ballet is the codification of the so-called five basic positions of the body (or, more precisely, the feet). The first position is a "gathering point" or resting position for the dancer (heels meeting at a central point and toes pointing outward), while the other four positions prepare the dancer to move (Homans 2010: 23) (see figure 2). Codified in the late 17th century by Pierre Beauchamp, the dancing master of Louis XIV, the five positions are the foundations of classical ballet:

The importance of these positions cannot be overstated: they are the major scale, the primary colors from which all other constructions in ballet arise. Without them, *la belle danse* was a social dance; with them, the crucial leap from etiquette to art was made. (*Ibid.*: 23)

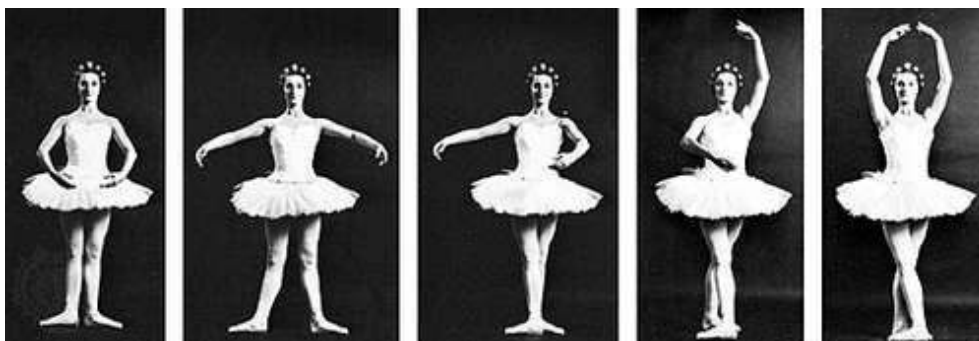


Figure 2: Five basic positions of the body

Between 16th and 19th century, dance changed radically: baroque dance became classical ballet, the nobles and courtiers were replaced by professional dancers, the palace halls and gardens were replaced by theaters with proscenium arch stages, the male predominance on stage was overcome by the central figure of the ballerina, and yet the five positions changed very little in comparison. To this day, they remain structurally the same, with the main transformation being a widening of the angle at which the feet point outward from the body (originally, the feet were never supposed to point outwards at an angle wider than 45 degrees).

However, this semiotic stability is not the same as propagation of a representational state or of informational content. The five positions of the feet discipline the dancer's movement so as to constrain the interpretative effects that the dance performance entails. Originally, this codification was carried out with the objective of making the dancer appear noble, as opposed to lesser social characters that were depicted as having the feet pointing inwards (*ibid.*: 23). But as ballet became more detached from etiquette, this distinction between the noble body and the body of the lower social classes became less pragmatically relevant for the action of the sign. In our description, the five positions of the body cannot be said to be a representational state or to convey an informational content. Its stability has the form of a habit of action, with open-ended results, across very distinct contexts and communicative situations. The semiotic character of the five positions of the feet is historical, temporally distributed: it is not synchronically located, and its object is a mere form that requires time and context to be expressed as a regularity.

This dynamic semiotic frame needs to be understood together with Peirce's pragmatism. The mode of being of signs is to act – determine effects – in the world. Semiosis is a process in which action and communication are co-dependent. This entails a semiotic kind of cognitive externalism: just as for Peirce it is impossible to think without signs, so also cognition itself is impossible without external, materially-incorporated action and its consequences. Minds are not severed from the external world, but are continuous to it.² To think with signs is to think with external artifacts and within a community.

This view of the temporal distribution of meaning has consequences for the notion of distributed cognitive systems (Zhang & Patel 2006; Hutchins 2014; Davies & Michaelian 2016), as it entails a “semiotization” of the discussion about distribution of cognition (see Atã and Queiroz, in press). Hutchins (2014) has characterized distributed cognition as an emergentist approach to cognition. In our approach, semiosis is a temporally

distributed process in which a regular tendency towards certain future outcomes emerges out of a history of sign actions (a semiotic chain). Our approach here is pragmatic and action-oriented (cf. Engel, Friston & Kragic 2016; Madzia & Jung 2016), and focuses on sign action, as conceived by Peirce's pragmatism. According to the kind of cognitive externalism afforded by a Peircean perspective, whenever we consider distributed cognitive systems (DCS), we have to consider that the agents and artifacts in question embody irreducible semiotic processes. What makes some entity a part of a DCS is that, in the context of that system, the entity acts as a first term that triadically stands for a second term in order to determine a third term, which is a regular effect. In other words, what makes an entity a part of a DCS is that it acts as a sign so as to generate other signs. Why is it crucial to consider semiosis when describing DCSs? We cannot explain (it is not sufficient) the meaningful behavior of DCSs as the effects of explanatory units such as persons, groups of persons, or artifacts. The phenomenon to be described and explained when examining a DCS is the action of signs. Agents and artefacts in a DCS are observed as processes of irreducible triadic relations. DCSs and their meaningful behavior are outcomes of the action of signs. The fundamental unit of explanation for the behavior of persons and artefacts in a DCS are the signs that regulate them. The concept of semiosis is not a re-description of individual actions of agents and artifacts. In fact, the object of description here is not agents, artifacts, and their doings, but some real general process that supervenes on them but is not reducible to their particular properties. In this view, whenever one refers to an agent or a cognitive artifact in a DCS, he/she is referring to signs, and describing semiosis. In this active semiotic externalism, cognition is the development of available cognitive artifacts in which it is embodied as a power to produce interpretants (interpretative/communicative effects).

Consider ballet: It is a habit of sign action, a codification of dance steps that disciplines bodies and stabilize their communicative behavior within a community of utterers and interpreters. This habit is temporally distributed. In the case of ballet, the agents of the DCS are dancers, audiences, choreographers, producers, theorists, critics, etc., that integrate a community within which "ballet" is a sign endowed with meaning. The artifacts of the DCS integrate an extensive list of items with which this large community enact the sign "ballet" as a process of meaning: dance notation systems, markings, musical notations and instruments, stage architecture and stage technologies, illumination devices, wearables, props and prostheses, literary artifacts such as narrative structures and character archetypes, print media such newspapers, magazines, books, etc. This extensive distributed cognitive system develops in time, from 16th century court dance to 20th century classical ballet. Throughout this time, agents and artifacts come and go, but the distributed system continues as a dynamical regularity throughout radically different circumstances and situations. This dynamical regularity evolves, changing its conditions of stability in several critical moments. This evolution takes the form of development of cognitive artifacts.

Emergence of Semiosis

Emergentism is a naturalistic and physicalistic (physical monist) position, according to which the evolution of physically constituted systems show critical turning points in which new organizational patterns arise, and, thus, new classes of systems exhibiting *novel* properties and processes. Emergentism assumes a hierarchy of levels of existence,

and the distinction between non-systemic and systemic properties (i.e., properties observed at the level of the whole, but not of the parts). The thesis of synchronic determination – a corollary of physical monism – states that a system’s properties and behavioral dispositions depend on its microstructure: there can be no difference in systemic properties without there being some difference in the properties of the system’s parts and/or in their arrangement. In turn, diachronic determination states that the coming into existence of new structures would be a deterministic process governed by natural laws (Stephan 1999: 31). This latter feature of emergentism is incompatible with Peirce’s theoretical framework, as he rejected the belief in a deterministic universe (CP 6.201). However, this does not preclude the treatment of emergence in connection to a Peircean account of semiosis, as there are also emergence theories committed to indeterminism (e.g., Popper *in* Popper & Eccles 1986 [1977]).

Semiosis is an emergent self-organizing process in a complex system of sign users interacting locally and mutually affecting each other (Loula *et al.*, 2010). Queiroz and El-Hani (2012, 2006a,b) have modelled semiosis as an emergent, multi-level, process. Their model is based on Stanley Salthe’s (1985; 1993) hierarchical structuralist model of emergence, combining it explicitly with Peirce’s triadic system of categories. Interested in Peirce’s philosophy (Salthe, 1993: xi), Salthe has developed a multi-level hierarchical approach consisting of a “basic triadic system.” We are going to describe below Peirce’s triadic system of categories, and the model of semiotic emergence based on Salthe’s basic triadic system.

The Peircean list of categories (Firstness, Secondness, Thirdness) can be described as a system of classes of irreducible logical, phenomenological and metaphysical components (see Houser 1997; Brunning 1997). In brief, the categories can be defined as follows: (1) Firstness: what is such as it is, without reference to anything else; (2) Secondness: what is such as it is, in relation with something else, but without relation with any third entity; (3) Thirdness: what is such as it is, insofar as it is capable of bringing a second entity into relation with a first one in the same way that it brings itself into relation with the first and the second entities. This system is the foundation of Peirce’s philosophy and, also, of his model of semiosis (see Murphey 1993: 303-6). Firstness as a mode of being is a mere possibility. It can be characterized as lacking determination (cf. MS 277), and it is the category of vagueness and novelty. Secondness as a mode of being is an actual occurrence (Parker 1998; CP 6.455). It is the category of dyadic relations (CP 8.330) and reactions (CP 6.200). The actuality of a thing is simply its occurrence or the realization of a possibility, without thereby making reference to something larger, be that a general law or an interpretation. Thirdness is the category of mediation, habit, generality, and conceptualization (CP 1.340).

Queiroz and El-Hani’s (2012, 2006,a,b) model of semiosis as an emergent multi-level phenomenon assumes that a description of semiosis need to consider at least three distinct levels of description: a focal level, a micro-semiotic level, and a macro-semiotic level. These levels are based on Salthe’s hierarchical structuralist system. The focal level, in Salthe’s model, is the level of observation of an actual phenomenon. This level is comparable to the Peircean logical phenomenological category of *secondness*, the consideration of actuality of occurrence. At this level we observe instantiated signs effectively acting and producing new instantiated signs. This dynamic action of signs has been modelled by Peirce as a chain of semiotic triads (see figure 1 above). This effective sign action is emergent, which in our approach means that it cannot be

logically inferred from the behavior of parts of a system considered in simpler relations.

The micro-semiotic level is a lower level of description, that considers the components of the focal phenomenon. These components could be related in many possible ways, and the actual semiosis observed at the focal level is but one among many ways the phenomenon could have been instantiated. This level is comparable to the Peircean logical phenomenological category of *firstness* the consideration of elements of situated experience regardless of any actual connection or determination. At this level of description we can only regard the elements in their positive characters and situated possibilities of action, how they could act, but not how they will or would act. Here we observe not an actual semiotic chain, but only possible signs determining possible interpretants in relation to possible objects. In the domain of Firstness, we find a set of potential causal relations at the lower level, which can constitute a particular set of processes at the focal level. The examination of a micro-semiotic level of description establishes initiating conditions, or potentialities of action, but how a sign will act is indeterminable by this level alone. Hence, besides considering the micro-semiotic level of description we need also to consider a macro-semiotic level.

The emergence of effective sign action at the focal level is the result of an irreducible interplay of initiating and boundary conditions. An upward (micro to focal) constitutive determination on what will emerge can be described in the form of a potentiality of sign action provided by the components of a semiotic triad: potential signs, potential objects, potential interpretants. A downward (macro to focal) selective determination on what will emerge can be described in the form of a tendency of sign action given by a temporal or historical context. The irreducible interplay of these upward and downward determinative relations result in the emergence of effective sign action observed in the focal level (see figures 3 and 4).

The macro-semiotic level is a higher level of description, that considers an environment or context in which the focal phenomenon is framed or niched. This level is comparable to the Peircean logical phenomenological category of *thirdness*, the consideration of elements of situated experience as they are mediated by habits (general tendencies, regularities or law-like behaviors). In our description, this contextual level is a temporal context, and the habit is temporally distributed in the form of a cumulative and generalizable history of past sign action that tends towards some futures rather than others. This tendency plays the selective role of boundary conditions, that limit or constrain potentialities of action in terms of historical tendencies. At this level we describe a history of interconnected semiotic chains forming a past semiotic web or network that embeds habits of sign action. But the examination of a macro level of description doesn't allow us to infer how these habits will be instantiated. In order to do that, we have to consider the interaction between micro-semiotic and macro-semiotic level.

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downward determinative relations result in the emergence of effective sign action observed in the focal level (see figures 3 and 4). The process which will emerge at the focal level is among a set of processes made possible by the micro-structure of a given kind of system.

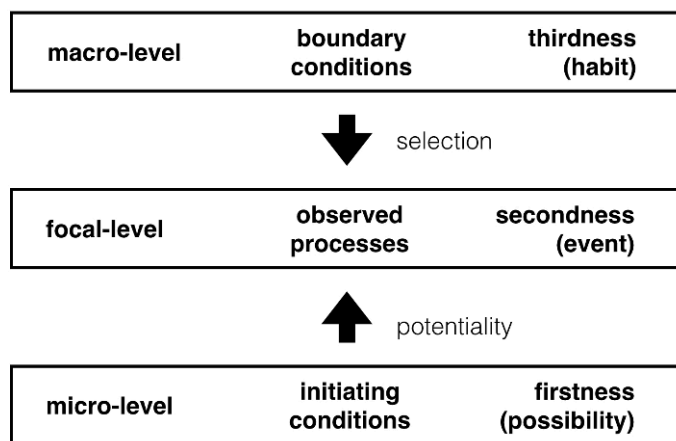


Figure 3: A scheme of the determinative relationships in Salthe's hierarchical system in relation to Peirce's categories. Initiating conditions (associated with Peirce's category of firstness) and boundary conditions (associated with Peirce's category of thirdness) act together and irreducibly, determining an upward potentiality of action and a downward selective determination on the emergence of observed processes in the focal level (associated with Peirce's category of secondness).

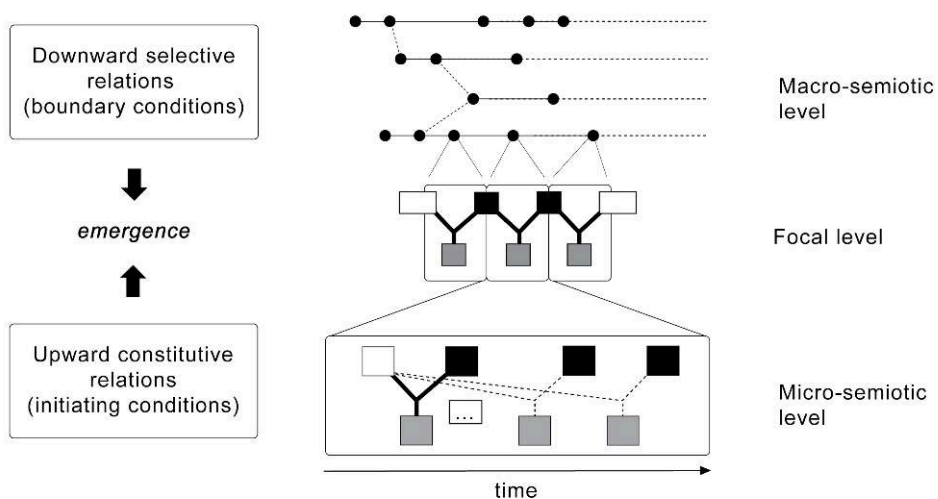


Figure 4: Micro-semiotic, macro-semiotic, and focal level of observations. At the focal level we observe effective dynamic sign action, that can be modelled as semiotic chains. At the micro-semiotic level we observe possible sign action (represented by the dotted lines between possible semiotic triads). At the macro-semiotic level we observe networks of semiotic chains regulated by habits. The interaction between the micro-semiotic and the macro-semiotic level lead to the emergence of actual semiosis at the focal level.

An important assumption of this model is the ubiquity of semiotic emergence. In semiotic systems, every sign action is emergent. This is compatible with Peirce's distinction between dyadic brute force interactions on the one hand and triadic (mediated), semiotic, interactions on the other. Dyadic interactions can be analyzed in terms of dyadic relations: facts or logical relations of two terms. An example is the dyadic notion of reference. We may try to explain the vertical morphology of dance movements of the romantic ballerina as a reference to an ethereal being (say, a sylphide) because both the ethereal being and the dance movements share some qualities (lightness, verticality). This would be akin to seeing the ballerina and the sylphide as aggregate terms, correlated by a predicate (see CP 3.535). Dyadic relations allow us to describe systems that are reducible to aggregations of pairs of terms. However, such a description of reference in terms of a shared predicate says nothing about the higher level of the system itself, but only describes properties of aggregate terms. This kind of description is insufficient to account for semiotic relations. As previously described, semiotic relations are irreducibly triadic. To consider semiotic relations we have to increase the "order of relativity" (CP 3.625): from the mere dyadic correlation between terms, to a triadic relation in which a relation between two terms form a third correlate term, which is a whole (CP 7.537). A semiotic relation is not a fact about two terms, but instead a triple fact: what makes the relation between the romantic ballerina and the sylphide a semiotic relation is not the mere logical possibility that the ballerina and the sylphide share some qualities, but the power that this logical possibility acquires, within the context of a semiotic chain, of producing interpretants. In order to describe this triadic relation, we have to take into consideration not only the qualities of the elements, but a process that happens in the level of interpretative system itself. In other words, if a romantic ballerina is regarded as standing for a sylphide, we cannot explain this relation by considering only a predicate of the ballerina and of the sylphide; we have to consider the ballerina, the sylphide and the mediative action of ballet itself as a triple fact that is irreducible to a dyadic relation. It is in this sense that we can say that every sign action is emergent, and that this ubiquity of emergence is compatible to Peirce's description of semiosis as irreducibly triadic (and not dyadic). A consequence of this view is that semiotic chains and networks are constantly subjected to potential emergence of novelty: an aggregate pair of terms doesn't necessarily produce some interpretant. The stability of semiosis in time is not conceived as absence of novelty, but as regularity obtained across novelty.

Another important assumption of the model is the self-organization of semiotic chains and networks. Semiotic networks at the macro-semiotic level are constituted by past semiotic chains at the focal level, and in turn, help to further determine it. A consequence of self-organization of semiosis is that sign action is always to some degree self-referential: ballet signs instantiate ballet objects, ballet properties, ballet experiments, etc., that are considered pragmatically relevant in a certain context of practice that has itself been constructed by these objects, properties, experiments. This view is in opposition to the understanding of signs as conveyors of referential content. It is simplistic to attempt to characterize the semiotic process of ballet as dependent on

some referential object independent of the semiotic process itself, because the whole complex is irreducibly dependent and self-constructed. The pragmatically relevant communication of self-referential properties of ballet renews or reiterates the capacity of this sign or system of signs (ballet) of semiotically structuring some contextual reality, or of conferring some useful agency to utterers and interpreters in relation to a given contextual reality. In this sense, whenever we talk about dancers, audience, or any cognitive artifacts involved in the action of the ballet sign, we consider them as signs whose action is emergent and integrate a self-constructed semiotic process.

Emergence of Classical Ballet as a Sign in Action

Classical ballet is an emergent sign in action. This sign in action is distributed in time (across the whole history of ballet), and defined as an open-ended tendency of development and pragmatic likelihood of occurrences of meaning processes. The emergence of classical ballet is the emergence of a habitual, self-organized, temporally distributed semiotic process. It involves several historical episodes, such as the leap from *etiquette* to art form with the codification of body positions during the reign of Louis XIV, the transfer of dance performances from court venues to theaters with proscenium arch stages, the professionalization of dance and the formation of professional dancers, the formation and development of a popular audience for ballet, several episodes of embodied research and stabilization of dance techniques (e.g., the emergence of the *pointe* technique, popularized by Marie Taglioni in the 1830's), several episodes of systematization and codification of dance vocabularies (e.g., such as the alphabet of dance steps published in Carlo Blasis' 1828 *The Code of Terpsichore*). At any of these episodes, the development of the semiotic chain is subjected to upward initiating conditions from a micro-semiotic level and downward boundary conditions from a macro-semiotic level.

A particular example that can illustrate the role of micro-semiotic and macro-semiotic levels concerns the proscenium arch stage. At a micro-semiotic level, the development of the semiotic chain of classical ballet is regulated by the availability of artifacts and the initiating conditions for sign action they embody. Consider the performance space of ballet. In its baroque origins in European courts, ballets were performed in palace halls or gardens, there were no elevated stages or proscenium arches, and the audience occupied seats arranged in tiers and viewed the spectacle from above (Cohen & Matheson 1992; Homans 2010). This positioning of dancers in relation to the audience afforded geometric patterns of dancers' displacement in the performance space (see figure 5):

[T]he ballets were performed, not on raised stages, but in the central space of large halls with the audience seated above the floor in galleries that extended around three sides of the dancing area. The wise masters reasoned out that the way to dazzle was not with steps, which the performers could not do expertly and the audience could not see well, but with floor patterns – complex geometrical shapes that formed, dissolved, and reformed to display a tantalizing variety of designs. (Cohen & Matheson 1992: 7)

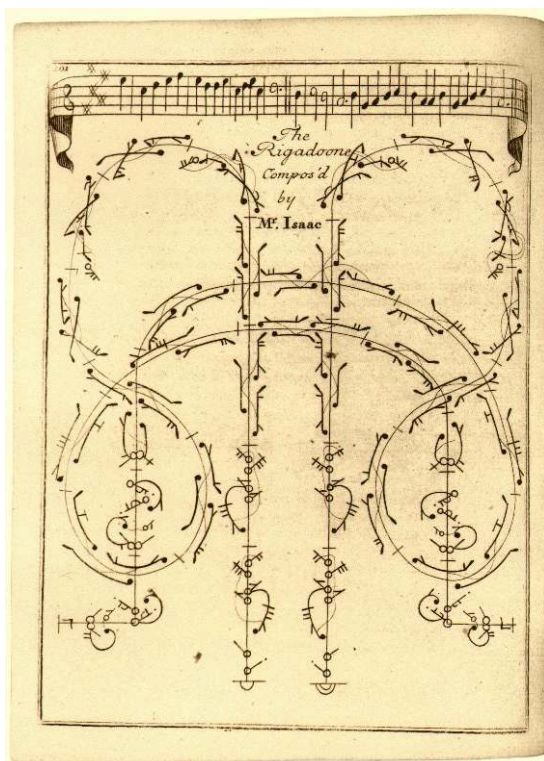


Figure 5: A 1721 dance as represented in the Beauchamp-Feuillet notation. The notation system itself stressed the geometrical character of the dancers' displacement as viewed from above. [upload.wikimedia.org/wikipedia/commons/1/1e/Feuillet_notation.jpg].

The historical development of classical ballet saw a transition from these performance spaces to proscenium arch stages as we typically know them. That corresponded to a change in the relation between dancers and audiences. The architecture of the proscenium arch stage offers a different set of initiating conditions for sign action incorporated in the performance space, as it locates the performance in front of the audience and frames it with the proscenium arch. The development of this kind of stage was directly influenced by visual perspective (see Breton 1990; Barker & Bay 2016), a technique developed by Filippo Brunelleschi and Leon Battista Alberti in the context of architectural drawing and painting. The stage functions as a one-point perspective box that privileges frontality of observation.

Regardless of wider historical or contextual considerations, the frontality of observation afforded by the cognitive artifact of the proscenium arch stage already imposes new initiating conditions for sign action. However, when we consider actual semiosis, this set of initiating conditions are always acting together with a macro-semiotic level, subjected to a regulatory process that involves a network of semiotic chains. When we consider the proscenium arch stage in ballet, a relevant semiotic chain concerns the construction of the body of the dancer as a sign endowed with meaning. This extensive semiotic chain includes, among others, the *contrapposto* of Classical Antiquity statuary, the Renaissance aesthetic ideal of mathematically harmonious body proportions, the Pythagorean academic association between body, music and mathematics in 16th century France (Homans 2010: 5), the severe discipline of body movements established by the *etiquette* of the French court, the posture and footwork of fencing. This historical regulation had before determined the

geometrically-precise body of the baroque dancer as the dancing body performing in the halls and gardens for an audience of nobles and courtiers. The introduction of the proscenium arch stage and its new set of initiating conditions was followed by new retranslations of the ballet dancer as a sign. In the eighteenth century, the ballet master creator of the *ballet d'action*, Jean George Noverre, likened the perspective box of the proscenium arch stage to the *tableaux* of a painting, and put forward a conception of ballet as a dynamic painting. Noverre emphasized pictorial composition and narrative, *chiaroscuro*, and perspective, suggesting that dancers be assigned roles according to their stature so as to emphasize the perspectival illusion of depth, and introducing pauses in the ballet action so that the audience could take time to appreciate the details of the visual compositions of his balletic *tableaux* (Monteiro 1998, ch. 2; Homans 2010: 74). The intersemiotic relation (relation between different semiotic systems) with painting regulated how the frontality of observation afforded by the proscenium arch stage theater acted semiotically in the *ballet d'action*. The frontality of observation afforded by the proscenium arch stage also provides initiating conditions for the romantic revolution that marks the start of modern ballets (see Homans 2010: 170). Romantic ballet was decisively dependent on vertical morphologies of dance movement. The influential dancer Marie Taglioni, the first romantic ballerina, stabilized into a balletic habit the *en pointe* technique (dancing on the tip of the toes), helping to form the ideal image of the ballerina as an ethereal and weightless figure. This verticality of dance went together with Romanticist aesthetic ideals. In fact, as indicated by Homans, Taglioni's career represents a central point of connection between ballet and French literary Romanticism:

Robert le Diable [1831 opera including a ballet performed by Taglioni] opened ballet to the world of literary Romanticism. In the years to come, a generation of poets, writers, and artists found themselves drawn to Taglioni and to dance. Heine, Stendhal, Balzac, Théophile Gautier, and Jules Janin all wrote about ballet. The poems and stories of Sir Walter Scott and E. T. A. Hoffmann, Victor Hugo and Charles Nodier, served as inspiration for ballet masters, and both Heine and Gautier wrote ballet librettos of their own. Perhaps most important of all, and building on Noverre, these poets and writers understood that ballet was not merely an aspect of opera but had a distinct language of its own: they were its first informed critics. Nor was their role merely responsive or passive, for their writings defined Taglioni's image and played a critical role in promoting her career. (*Ibid.*: 150-1)

Both Noverre's pictoric ballet and the verticality of dance of the romantic ballerina are retranslations of the body of the ballet dancer as a sign. They presuppose the frontality of observation afforded by the proscenium arch stage, and submit it to the regulatory influence of past sign action (perspective in painting in the case of Noverre, literary Romanticism in the case of Taglioni). These operations create novel processes of meaning, emergent episodes of sign action.

Conclusion

In classical examples of distributed cognition, sign action is distributed within spatial contexts: boats (Hutchins 1995a), cockpit of an airplane (Hutchins 1995b), research laboratory (Nersessian *et al.* 2003), theater building (Tribble 2005). In these examples, the distribution of cognition is decisively conceived as a matter of spatial locus: cognition is not only located in the head of individuals, but in spatial environments of cognitive artifacts and cultural practices. In our approach, the focus of description of

distributed sign action is not spatial, but temporal. It is not only the case that a sign cannot simply be described as spatially contained within one's skull, it is also (and more centrally) the case that a sign cannot be described as temporally contained within one event or episode. Even when the focus of observation is effective instantiated sign action in a single event, the sign acts as a temporally distributed process in which a regular tendency towards certain future outcomes emerges out of a history of sign interactions.

Our most fundamental explanatory unit is sign action, a temporally distributed process. This is what grounds our emergentist account of cognition. Semiosis self-organizes in time, in a process that continuously entails the production of more signs. Emergence is a ubiquitous condition in this process: the translation of signs into signs cannot be inferred from the properties of the components of a semiotic triad alone, but has to take into account a complex interaction between a micro-semiotic and macro-semiotic level of description. This interaction can be understood as an interplay of potentialities and tendencies, or upward constitutive determinative relations and downward selective determinative relations. According to this view, emergence is a central defining condition of processes of meaning. The emergence of sign action is associated with novelty, creativity, and surprise in cultural evolution.

Ballet is a sign in action. It is a unique process of meaning that continues to emerge in time through the interplay of material situated conditions afforded by cognitive artifacts at a given moment and habits of sign action within networks of semiotic chains. This process has emerged as a relation of meaning involving different kinds of cognitive artifacts: musical, bodily/motor, visual and pictoric, spatial and architectonic, etc. Before the emergence, these cognitive artifacts developed according to various semiotic habits: e.g., *etiquette* and fencing regulated body discipline, perspective regulated the architectonic space of theatre stages and the pictoric space of the canvas. In classical ballet, a novel and unique habit emerges that regulates the behavior of several cognitive artifacts. One case is the development of the verticality of dance in classical ballet as a semiotic relation connecting proscenium arch stages and dancers as temporally distributed signs. This development is micro-semiotically determined by the spatial conditions of the proscenium arch stage, and macro-semiotically determined by a historical construction of the body of the dancer within a network of semiotic chains, such as the body of the dancer as a pictoric object in a painting *tableaux* organized by one-point perspective, or as an embodiment of the aesthetic ideals of literary Romanticism. This is not only the emergence of actual meaning, but also the emergence of an open-ended field of potential and general meanings, a self-organized and temporally-distributed semiotic process.

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NOTES

1. We follow the practice of citing from the Collected Papers of Charles Sanders Peirce (Peirce 1931-35, 1958) by volume number and paragraph number, preceded by CP; the Essential Peirce, by volume number and page number, preceded by EP. References to the Annotated Catalogue of the Papers of Charles S. Peirce (1967) will be indicated by MS, followed by the manuscript number and pages.
2. Peirce’s semiotics is oriented by a philosophical principle of continuity, which Peirce refers to by the neologism “synechism.” Synechism is a “tendency to regard everything as continuous” (CP 7.565). According to Peirce (CP 6.169), synechism is “[...] that tendency of philosophical thought which insists upon the idea of continuity as of prime importance in philosophy and, in particular, upon the necessity of hypotheses involving true continuity [...]” Synechism is first and foremost a methodological principle, “a maxim to look for connections and continuous strata between seemingly disconnected entities or events” (Esposito 2005, Introduction, par. 1). This principle of continuity abhors substantial dualism – the notion that psychical and physical phenomena are two completely separated categories of being – which Peirce refers to as “the philosophy which performs its analyses with an axe, leaving, as the ultimate elements, unrelated chunks of being” (Peirce 1893/1998, EP 2:2). Although Peirce construes his principle of continuity as a methodological principle, it points to a metaphysical hypothesis: “On the metaphysical side synechism is a hypothetical description of a tightly woven universe, a universe woven not within

layers of the same kind of reality but between layers in a scalar fashion.” (Esposito 2005, Introduction, par. 1).

ABSTRACTS

We explore Peirce’s pragmatic conception of sign action, as a distributed and emergent view of cognition and exemplify with the emergence of classical ballet. In our approach, semiosis is a temporally distributed process in which a regular tendency towards certain future outcomes emerges out of a history of sign actions. Semiosis self-organizes in time, in a process that continuously entails the production of more signs. Emergence is a ubiquitous condition in this process: the translation of signs into signs cannot be inferred from the properties of the components of a semiotic triad alone, but has to take into account a complex interaction between a micro-semiotic and macro-semiotic level of description. This interaction can be understood as an interplay of potentialities and tendencies, or upward constitutive determinative relations and downward selective determinative relations. According to this view, emergence is a central defining condition of processes of meaning.

Ballet is a sign in action. The emergence of classical ballet is a self-regulatory process, in which a system of different kinds of cognitive artifacts (musical, bodily/motor, spatial/architectonic) and agents obtained a stable semiotic relation throughout many phases of development between the 16th and the 19th Century. One case is the development of the verticality of dance in classical ballet as a semiotic relation connecting proscenium arch stages, dancing bodies, and audiences. This development is micro-semiotically determined by the spatial constraints of the proscenium arch stage, and macro-semiotically determined by a historical construction of the dancing body as a sign within a network of semiotic chains, such as the intersemiotic regulation of body of the dancer by principles coming from painting. This is not only the emergence of actual meaning, but also the emergence of an open-ended field of potential and general meanings, an autonomous tendency of development. To say that ballet, as sign action, emerges, is to say that cognitive artifacts such as dancer’s bodies, stages and audience’s point of view, musical compositions, costumes, all sorts of supporting institutions, etc, constitute a niche for sign action, interacting according to tendencies of development that didn’t exist before.

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Novelty and Causality in William James's Pluralistic Universe

From Psychology to Metaphysics

Michela Bella

Introduction

- 1 In an interesting work in which he reconstructs the history of the concept of the emergent in psychology and sociology, R. Keith Sawyer (2002) identifies for psychology four schools of investigation: the so-called British emergentism, Gestalt psychology, American Pragmatism (until the 30s) and the recent philosophy of mind and cognitive sciences (1970s-90s). Sawyer's intention is twofold. On the one hand, he aims to reconstruct the history of the conception of emergentism, starting with the works of Comte, Durkheim, James and Lewes as well as German organicists, to show how some of their insights have profoundly influenced the formation of contemporary cognitive sciences and philosophy of mind. Secondly, given the original proximity of psychology and sociology, this reconstruction is propaedeutic to showing that the reflections on emergence, particularly in authors such as Durkheim and Parsons, have played a crucial antireductionist role by disengaging the science of social phenomena from psychology.
- 2 The philosophical psychology of William James is, in this perspective, seminal for the development of the reflection on the concept of the emergent in both psychology and sociology. Leaving aside, as a possible next step, the investigation of the philosophical implications of the reception of Jamesian psychology by the social sciences, which developed later also through the recovery that G. H. Mead made of it, in this article I propose to analyze the concept of the emergent that James elaborates in the territory between psychology and metaphysics. This is another way to understand the problematic relationship between *novelty and continuity*, that is to say, the issue of the emergence of genuinely new events in a paradigm of natural continuity, which has been analyzed in different fields by Peirce, Dewey, and Mead. As for James's psychology and philosophy, I intend to devote attention to the concept of *causality* that James will

profoundly challenge already in his *Principles of Psychology* (PP) and then both in some articles of the early twentieth century and, in a more systematic way, in his more distinctly metaphysical texts: *Some Problems of Philosophy* (SPP) and *A Pluralistic Universe* (PU). It is my conviction that a reflection on the concept of causality allows us to understand better the role of James's epistemological and metaphysical thinking in today's theories of emergence.¹

- 3 James is often cited by theorists of emergence.² Jaegwon Kim (2005) argues that Huxley and James already posed the “explanatory/predictive questions” on mental causation and consciousness made by classic emergentists. However, following Stephan's (1999) classic distinction of three main varieties of emergentism, the Jamesian perspective is difficult to classify.³ For a great number of emergentists, *physical monism* is taken for granted whatever version of natural emergentism one may adopt. Like other pragmatists, James is instead clearly committed to an anti-reductionist version of naturalism, which makes his naturalism suitable of different interpretations.⁴ In his *Principles* he explicitly adopts the “anti-supernaturalism animus” of scientists, but is not satisfied with a superficial opposition between natural and supernatural causes. Talking about the use of the word “experience,” for instance, a term that expressed the naturalistic perspective, James opposed a purely “ideological” use of this term in favor of a more sophisticated understanding of different sorts of *natural agency* (see chapter XXVIII), and therefore of causality. Pihlström (2002) showed how most emergentist theories, even those by Stephan and Kim, end up in sharing at least what Kim calls “a *minimal physicalism*” (Kim 2005: 13), an expression he uses to define his own theory of mind-body supervenience.
- 4 James is also mentioned in the renewed debate on panpsychism. Brüntrup and Jaskolla recently wrote about contemporary attempts to re-evaluate “quiddities” in order to metaphysically ground the emergence of higher levels of consciousness in both contemporary physics (Stapp 2007) and neuroscience (Koch & Tononi 2015). For Seager (2009), all founders of scientific psychology, namely Fechner, Wundt, Lotze, and James, were somehow panpsychists. He particularly underlines the tension between emergentist and panpsychist commitments in James, and confesses that James's position remains unclear. James's sixth chapter of *Principles* is the “locus classicus” of the so-called “combination problem”⁵ for panpsychists since as recently put by Chalmers, any version of panpsychism that holds microexperiences combine to produce macroexperiences is in trouble (Chalmers 2016). However, James would have also defended one of the three main arguments used in favor of panpsychism later recovered by Thomas Nagel: the *genetic argument*, according to which “if human consciousness is to evolve from a physical basis, then basic forms of mental being need to be present at the fundament of this evolutionary process” (Brüntrup & Jaskolla 2016: 3).
- 5 My investigation on James's understanding of mental causation goes in the direction traced by Pihlström: that of reconsidering pragmatists as emergentists of a non-reductionist kind within a renovated framework. James's theoretical use of evolutionary theories,⁶ his interdisciplinary training as well as the not-yet-institutionalized context of the sciences in which he worked, contributed to making him well aware of the ontological and epistemological issues linked to the assumption of a full emergentist or anti-reductionist perspective. This awareness is revealed by his oscillation between more or less *vitalistic* positions on “emergentism” which he seems

to adopt through his life. On the one hand, his debt to the philosophy and logic of John Stuart Mill is well known. James dedicated his book *Pragmatism* (1907) to the memory of Mill, who is unanimously considered the inspiration behind the concept of emergence, which is then taken up and developed by his colleague G. H. Lewes and later by evolutionist philosophers such as Morgan, Alexander, and Spaulding in a more naturalistic vein (McLaughlin 1992). On the other hand, we have to consider James's fascination for his French colleague Bergson, particularly for the latter's robust and acute critique of deterministic materialism, his processual metaphysics and also his eventual arrival at a spiritualist position. According to his statements, James considered himself not to be a materialist or a spiritualist but a "natural realist" (De Sanctis 1906: 155). The aim of this article is precisely to attempt to clarify what this *naturalism* consists of in the light of emergentist conceptions by focusing upon his understanding of causation between psychology and metaphysics.

Novelty and Causality

- 6 In Appendix C of *A Pluralistic Universe* (1909),⁷ James takes up the Aristotelian principle that whatever is affirmed or denied of an entire class or kind may be affirmed or denied of any part of it in the formulation that he calls "skipped intermediaries and transferred relations" (PU: 151). This logical principle applies to a series of abstract terms – or, rather, as James already wrote in his *Principles of Psychology* (1890), following Augustus De Morgan's *Syllabus*, to homogeneous series, though not to all of them: there are relations, such as causality, that are *intrinsically* transferable, and others such as negation, that are not (cf. PP II: 1254). He seems now to make a further distinction as to the objects to which these logical rules apply. There are abstract objects, which are entirely covered by Aristotle's law, and concrete objects, which instead escape the law for certain relations and under certain respects. As regards the principle of causality, for instance, the Aristotelian rule would provide for the linear transfer of a cause to the effects of another cause, which is the effect of the first cause only in series of abstract objects. In the concrete dimension in which objects do not possess their characteristics in purity, it is instead complicated to argue in favor of this linearity, as in James's example of commodore Perry and the Duma. One may state that commodore Matthew Perry, commander of the naval expedition that forced Japan to establish diplomatic relations with the United States in 1853-4, was the cause of the establishment of the Duma in Russia.⁸ However, in a series of real terms such as these, hardly any "real or practical relationship to each other" (PU: 152) holds up because of the vast space-time distance that has occurred between their appearances. Within a temporal perspective, which is that of the practical world, many changes occur between the two events that break in a certain sense the possible direct connection between Perry's unconfirmed intentions and the aforementioned political outcomes. There is a double level of change that has to be considered: not only do the terms we are considering change, with their contexts and relations, but the meaning that we interpreters attribute to those terms changes as well. It is a matter of *experience* that new paths of investigation continuously open up and show new possible connections that stimulate our research interests towards new directions. Therefore, in the perspective of the vast natural connections we live in, and given the unavoidable relevance of our practical interests in all sorts of investigations, it is not possible to speak of a linear transfer of causal relations without carefully qualifying the conditions. Moreover, it would be, in a sense, a useless self-

limitation to persist in following the terms of an abstract linear causality within the broader and thicker landscape of concrete reality. As a result of new experiences, in the course of our research, it is also possible to change the intention with which we began to investigate, so that the effort to stick to the terms that are still covered by the logic law is not worthy of the changing investigation – it would be like climbing a high mountain and then focusing on a single inessential detail, losing the beauty of the landscape view.

- 7 This appendix is a critical element in our investigation of the conception of emerging novelty in James's vision. In addition to the obvious connection between novelty and causality – where causality can be seen as a sub-problem of novelty – it shows the main and most mature traits of his criticism of an eviscerated view of the principle of causality and, more generally, of logic. With the backing of Bergson's idea of *devenir réel* and trying to combine it with Peirce's conception of *agapasticism* as developed in the early 1890s,⁹ James demonstrates both his constant and strict criticism of the philosophical tendency to indiscriminately apply formal logical rules to the world of real operations, and his sharing of Bergson's and Peirce's vision of novelty as something genuinely real, not just appearance.
- 8 The problem of novelty arises even more distinctly in the ontological continuist framework inherited from Darwinism and adopted by the empirical sciences. The emergence of something genuinely new from the continuous is problematic because it seems to imply creation *ex nihilo* and hence to break the rational order of the continuity of the real. It is at this point that Peircean "agapasticism," as a synthesis of "tychism" and "synechism," or of chance and continuity, together with the idea of creative evolution elaborated autonomously by Bergson, come to the rescue: "To an observer standing outside of its generating causes, novelty can appear only as so much 'chance,' while to one who stands inside it is the expression of 'free creative activity'." (PU: 153). This statement is very significant for understanding James's interpretation of the respective conceptions of his colleagues. It is clear that for James, the human agent is the model of causal agency on the basis of which it is possible to identify the natural causal agency. In other words, James refers to the human agent as the *analogatum princeps* of an analogical argument between human nature and "natural" nature itself. However, there is another crucial step to take that is related to the free and creative dimension of the activity mentioned by James. As we shall see, for James, the matrix of our conception of a real cause is to be found in our physiological experience of the activity. Since psychologically speaking, free activity is the activity governed by our conscious will, one can well envisage the connection between his ontological conception of the novelty of reality and that of the novelty introduced by free voluntary actions.¹⁰

Novelty, as empirically found, doesn't arrive by jumps and jolts, it leaks in insensibly, for adjacents in experience are always interfused, the smallest real datum being both a coming and a going, and even numerical distinctness being realized effectively only after a concrete interval has passed. The intervals also deflect us from the original paths of direction, and all the all identities at last give out, for the fatally continuous infiltration of otherness warps things out of every original rut. (PU: 153)

- 9 The conception of novelty proposed by Peirce and Bergson is interpreted by James as a novelty that emerges in the same continuous texture of experience. His reference to the "smallest real datum" of experience immediately reminds not only of his notion of

finite *drops* (SPP: 80) by which reality grows but also of his well-known psychological conception of thought as a continuous *stream* presented in the ninth chapter of *Principles*. We should notice that in *Principles*, James's pluralism is quite prominent in this respect. He believes that the distinction between personal selves, or better between thoughts that belong to different selves, constitutes an irremediable breach in nature governed by a law of "absolute insulation, irreducible pluralism" (PP I: 221). Against associationist psychology, James's correct application of empirical methodology leads him to consider not sensations,¹¹ but personal thoughts to be the real elementary psychic facts in psychology. Following Shadworth H. Hodgson, James harshly criticizes the so-called "theory of ideas" according to which there are *mental atoms* or molecules that remain unchanged amid the flow of thinking.¹² Concretely taken, thoughts exist in personal minds, and all the classes of consciousness are complex states having a temporal breadth that we immediately experience as a synthetic datum.¹³

Conceptualist vs. Perceptualist View of Causality

- 10 In *Some Problems of Philosophy*, James continues to investigate and tries to systematize the philosophical implications of the pluralistic metaphysics that he proposed in more detail in the eight Hibbert Lectures on "The Present Situation in Philosophy" held in 1908 at Manchester College in Oxford, later published under the title of *A Pluralistic Universe* (1909). The philosophical need to adopt a pluralistic metaphysical vision is a central preoccupation of his final reflections for several reasons. First, metaphysical pluralism is a useful framework for applying the methodological pluralism in which James trusted, and which he had made use of already in his *Principles*. However, further, pluralism is the consequence of an active vision of human mental activity and therefore, as we shall see, it is intimately connected to the assessment of genuine novelty.
- 11 The structure of the book edited by Burkhardt (1979)¹⁴ presents the treatment of the problem of novelty in chapter six, while the so-called subproblems of novelty – which are, in order, the problem of continuum and infinity (chapter seven), and the problem of causality from a conceptual perspective (chapter seven) and from a perceptual point of view (chapter eight) – are developed through the three following chapters.
- 12 It is not an easy task to unravel the full depth of James's mature philosophical vision as he was trying to synthesize it in this book. His argumentation is very complex and above all stratified: some assumptions are not comprehensible outside the general framework of reference that James has built over the years in a cross-disciplinary fashion, and that he tries to recapitulate here in brief and dense sentences. However, I believe that the best way to read these texts is through the lens of his radical empiricism. Since his *Principles*, James's increasingly vigorous attempt has been to offer a contemporary and credible version of empiricism. Such an attempt can be outlined as an amendment of the main psychological and logical faults into which the empiricist authors have plunged. In this case, for James, Hume is the prototype of half-hearted empiricists (SPP: 100), for he limited himself to accepting the pluralistic soul of empiricism while rejecting both the idea of novelty and that of activity (free-will). These two hypotheses, by contrast, are essential to the radically empirical philosophical vision promoted by James since the 1890s.¹⁵ In brief, it is in the context of

his attempt to establish a genuinely empirical psychology that James finds himself confronted with the philosophical problem of the *nature* of relations. Only by succeeding in describing it in terms of particular external or accidental relations, will it be possible to philosophically rehabilitate an enriched conception of experience and a pluralistic conception of reality in which novelty and free-will are not so easily discredited by an only seemingly rigorous logical and scientific reasoning.

- 13 In this broader framework, his insistence on the necessity of a different understanding of the principle of causality finds its proper place. Causality is, in fact, a principle of logical relation, the principle radically questioned by Hume, and incorrectly interpreted in a *materialistic* sense by most intellectuals. On a severe rethinking of cause-effect relations in part depends the possibility of real novelty, and finally, since free voluntary activities are considered as acts that introduce genuine novelty into reality,¹⁶ it is easy to see why the problem of novelty occupies a significant portion of James's last philosophical efforts.
- 14 The principle of causality has generally been interpreted as saying that, in specific ways, the effects are already contained in the causes. If this is true, then there is no genuine novelty and, as a consequence, no pluralistic vision can be true. James intends to conduct a historical-epistemological analysis of the meaning assumed by the concept of causality. He aims to show that both a conceptual translation of the facts of causality and the perceptual translation made by empiricism are just different methods of looking at the reality that is eventually based on different preferences.
- 15 As to what concerns the rationalization of causality, however, it began with Aristotle. From the scholastic interpretation of his "efficient cause," as "that which *produces something else by real activity proceeding from itself*" (SPP: 97),¹⁷ three logical implications were derived: namely, that (1) there must be a cause for an effect to occur; (2) that a proportion between cause and effect is necessary; and (3) that what is the effect should be *aliquo modo* in its cause. The rationalizing trend dominating the history of western philosophy established the epistemic priority of concepts over perceptions, considering perceptions to be fallible and therefore incapable of founding knowledge. This view also profoundly affected the perceptual view of causation and led to an almost complete "overthrow of perception by conception" (SPP: 98). The perceptual process of production,¹⁸ too difficult to explain in conceptual terms, was, in fact, translated into a relation of logical consequence that contradicts everyday experience:
- The cause becomes a reason, the effect a consequence; and since logical consequence follows only from the same to the same, the older vaguer causation-philosophy develops into the sharp rationalistic dogma that cause and effect are two names for one persistent being and that if the successive moments of the universe be causally connected, no genuine novelty leaks in. (SPP: 98)
- 16 Even scholasticism maintained in its definition the expression "*aliquo modo*" to guarantee the possibility of a slight difference between cause and effect, and in this way to avoid completely disregarding the common-sense acknowledge of causality. The intellectualist reading of causation, instead, which is for James a perversion of the correct use of our intellectual faculty, produced the logical exclusion of the possibility of real novelty as a mere unfaithful impression of our senses.
- 17 In Chapter four, stating the distinction between percepts and concepts, he dwelled on showing how our inability to translate into a conceptual language the phenomena of the change and growth of reality to be to the detriment of ordinary perceptual

experience. Since the conceptual vocabulary can only *nominate* these living processes, but it cannot embrace them unless by way of distorting them, it is not possible to fully translate perceptual processes into conceptual expressions. From the fact that we cannot correctly say, for instance, the process of change, conceptual language gets into the habit of denying its existence. It is a sort of “colonization process” whereby the conceptual impotence to say something is converted into the power to negate that which does not fall within its linguistic domain.

- 18 This perspective is connected with a form of ontological dualism that from Descartes onwards considers mental and physical matters as distinct substances. No causal relationship between mind and body could be rational in this perspective. In the monistic attempt to solve this problem, first occasionalism and then Leibniz’s theory of pre-established harmony achieved rationalistic domination over the immediate data, in particular by conceptually translating and finally depriving of their perceptual qualities the notions of activity and continuity. As mentioned before, Hume, the “half-hearted” empiricist, has gone so far as to deny any impression or idea of necessary connection. He maintained that our pseudo-idea of connection only derives from the *habit* of repetitively experiencing the same succession of events, and forming from this usual expectation produced by our imaginative faculty the impression of the idea of necessary connection. On the one side, Hume was a radical pluralist, for he considered events to be disconnected; on the other, however, he was a rationalist, for he believed in the uniformity of natural events, and thus refused to admit that really new events can emerge.
- 19 For James, causality is one of the forms in which the perceptive continuity of our experience is manifested. On a perceptual level, concrete causal relationships are how we describe the transition from one mental state to another: “the manner in which some fields of consciousness introduce other fields” (SPP: 100) – which is what James calls the *co-conscious transition* (ERE: 25). At this point, James’s remarks get more complicated. Firstly, he claims that we have a keen capacity to discriminate among different sections of continuity of experience. In fact, just as we use the idea of causality for the co-conscious relationship, we use prepositions and conjunctions instead to indicate other aspects of experiential continuity. Secondly, recovering an argument he used already in his *Principles*, he stigmatizes Hume’s adoption of the intellectualist rule according to which separate names should correspond to separate facts so that if there is not an identifiable fact that matches its name, that name is meaningless. Now, James’s conviction is that Hume has made a mistake in his starting-point and consequently, in all his reasoning. In fact, experience is in its original constitution continuous, concrete facts and meanings are “fringed” – just like our mental states are (cf. PP I: 249). Therefore, it is not possible to find pure, ideal atomic elements in immediate experience corresponding to the words with which we nominate it. Our capacity for abstraction works on this original continuity, focusing attention on some aspects and extrapolating them for the sake of practical operations, but it cannot break its continuous structure.
- Causal activity, in short, may play its part in growing fact, even tho no substantive “impression” of it should stand out by itself. Hume’s assumption that any factor of reality must be separable, leads to his preposterous view that no relations can be real. (SPP: 101)
- 20 Hume’s empiricist preference for facts does not prevent him from dismissing an entire class of facts just because these facts do not have the same separate form that words

have. As to causality, the Scottish philosopher was not able to find an impression corresponding to the relation of causality because he was looking for some discrete element of sensation, some standing impression of it whereas James claims that facts originally come in the form of “perceptual *durcheinander*” (SPP: 100).¹⁹

- 21 Then Kant agreed with Hume on the multiplicity of perceptual immediacy but tried to recover it by introducing a transcendental ego and its synthetic categories, so that causality is a category. In his analysis of Kant’s chapter “The Second Analogy of Experience” in his *First Critique* (2nd ed.), James believes that like Hume, Kant has, in fact, destroyed the idea of dynamic causation and replaced it with a mere temporal succession of events. He found a similarity between the Humean notion of “habit” and the Kantian notion of “rule.” In brief, Hume took the time-succession to be “loose” and its uniformity a subjective impression, while for Kant uniformity was objective in so far as our sensibility is ruled by reason. Accordingly, Kant’s category of causality gives nothing but an external description of sequences of events, and James observes that, like many laws of nature, Kant’s causality only states co-existence and succession. It inductively generalizes sequences of facts but does not *unite* them in some more intimate way.
- 22 More generally, he found that the positivistic approach of science is to reply to questions for an *explanation* of phenomena – the *why* questions – with more and more generalized descriptions of them. According to the inductive methodology, the less general laws are continually referred to the more general ones, and that is all there is to do.²⁰ In search of a more intimate explanation of causal sequences than that provided by positivist empiricism, James hints at the monistic tendency of some contemporary scientists, such as Lewes, Riehl, Heymans, and Bowne, to deduce facts from previous facts. This way of proceeding would be an interpretation of the aforementioned scholastic principle of *proportionality* between causes and effects so that the effects would be nothing more than successive appearances of the cause that have no scientific value. It is clear that by reducing causality to a *relation of identity*, these writers consider natural phenomena of variety, activity, and novelty as mere illusions or by-products (SPP: 103n). However, this is often a somewhat artificial scientific explanation, not a valid metaphysical assumption, which is useful for scientists to predict facts elegantly.
- 23 This conceptualist vision of causality represents for James the main polemical object, in order for him to promote a radically genuine, *additive* idea of novelty that supports his pluralistic metaphysics. Their mistake is the same as that made by Hume, that is, without finding in reality a discrete phenomenon that corresponded to our concept of causal “power,” they indeed deleted “the activity-feature of the sequence.” They intellectually operate a replacement for the perception of the causal connection with a “static relation of identity between two concepts” (SPP: 104). To stress how the view of logicians contradicts both our instinct and our common-sense notion of causality, James quotes a passage from Wilhelm Jerusalem’s *Einleitung in die Philosophie* (1906), in which the author discusses the possibility for mathematicians to make use of a generalized conception of *function* to describe quantitative and qualitative relations. The world of scientific logic results in being abstract, an “unearthly ballet of bloodless categories” (SPP: 104), in which change happens, but it remains somewhat *unexplained* for neither reasons nor activities play any dynamic causal role.
- 24 As far as the alternative perceptual view of causality is concerned, that advocated by James, it must be pointed out that the need to adopt a critical approach to perceptual

data is not at stake. There are, in fact, many perceptual errors that we ordinarily make, for example, by attributing a direct causal power to certain things without considering all the more complex chains of causal successions.²¹ However, while accepting the critical premises of the conceptualist view, James refutes their skeptical conclusion as incongruous. As with many other parts of sensible experience, it would be a fallacious argument to deduce from perceptual errors of *localization* that perceptions are entirely false and that change, activity, movement, and novelty do not exist at all. For the sake of clarity, I summarise how James's argument develops as follows:

- (1) the meaning of causation is derived from an original perceptual experience;
- (2) the perceptual experience from which we derive the meaning of causation is that of personal activity-situations;
- (3) he offers a psychological description of the causal process as a process that we experience in our consciousness of activity;
 - (3a) vague hypothesis that desire and will are unconditional causes;
 - (3b) psychophysiological criticism of our consciousness of activity;
 - (3c) logical conclusion: the nature of causation may be given in experience, but philosophy must ascertain the mind-body relation.
- (4) Further difficulties: pan-psychic philosophy and brain physiology.

- 25 Among the many interesting aspects of James's argument, we will underline that the process that James currently uses as a reference in analogy with the natural world is always that of the stream of thought, that is, the felt continuity between successive fields of consciousness. In this view, it is more comprehensible why co-conscious transitions constitute a core problem of all James's reflection. Moreover, within such an embodied perspective, how we as human beings are physiologically able to *feel* things inevitably shapes how we *understand* them. The perceptive experience of the process of conscious transition that happens in us when we activate ourselves in view of a result constitutes the *authentic* matrix of our conception of activity. In the flow of thought, desires and will are real causal agents, and they also respect the scholastic definition of containing "somehow" their effect. In fact, the desire for a specific result contains – in the sense of being in harmonious continuity with – the field of consciousness that corresponds to the realization of the activity. However, desire contains effects only in a *general* way as a kind of direction in which external agents also intervene and contribute to forming the final result, which is not entirely predictable. Following Mill, our will can be an unconditioned cause, in the sense of being an indispensable cause, but not a *close* one.²² The close or direct continuity that our perception suggests to us in our activity-experiences is not easily proved at the physiological level of analysis, for our will is not causally continuous with its apparent effects. In between are many causal successions – neural, muscular, and instrumental intermediaries – which remain entirely unknown to our perception. Even if James can work out a possible logical objection to this psychophysiological criticism,²³ he prefers to stop his investigation here for the moment. After having shown the main conflicting results of the conceptualist and the perceptual treatment of causality, in wanting to explore the perceptual view further, James would have to face at least two significant difficulties. On a microscopic level, such would be the problems related to the physiological discontinuity of will-acts, i.e., the mind-body problem; on a macroscopic scale, instead, James would have to be ready to extend his conception of an inwardly experiential nature for activity-experiences to physical cases of causality, thus having to face the implications of a *pan-psychic* philosophy.²⁴

The Problem of Causation in Psychology

- 26 The problem of causal connections has already appeared in the *Principles of Psychology*. As we have mentioned, still in *A Pluralistic Universe*, there is a direct reference to the last chapter of his *Principles*. If we examine the pages dedicated to metaphysical axioms, as ideal unverified relations, we find these following comments on the notion of cause:

Take for example the principle that “nothing can happen without a cause.” We have no definite idea of what we mean by cause, or of what causality consists in. However, the principle expresses a demand for *some* deeper sort of inward connection between phenomena than their merely habitual time-sequence seems to us to be. The word “cause” is, in short, an altar to an unknown god; an empty pedestal still marking the place of a hoped-for statue. (PP II: 1264)

- 27 The notion of cause is metaphysical in this case, representing the need for there to be a deeper level of connection in reality than what is empirically verifiable. Some interesting insights into James’s conception of causality in psychology can be found in Chapters V, VI, and XI, as well as in the more well-known Chapters IX, X, and XXVI. For the latter, to which we will refer here and there, I recommend other works, while we will try to focus on some aspects of the other chapters that are relevant to our inquiry.
- 28 In Chapter XI, James analyses the phenomenon of attention. It becomes more evident the criticism that James makes of classical empirical psychologists such as Locke, Hume, Hartley, James and John S. Mill, and also Spencer. These authors, unlike German scholars, have largely ignored the phenomenon of selective attention – which James began to explore in the previous chapters on consciousness and the self. The reason for such an omission is to be found in the conception of *experience* advocated by these authors, and against which James has been striving since his early works in the 1870s. The empirical account requires that experience is of something *given* and that all mental faculties, even the highest ones, can be derived from experience. According to James, it is important not to confuse experience with the mere presence of something to our senses. In fact, not everything we feel, but only what awakens our *interest* enters into our experience. Talking about the importance of interest in making the experience and therefore of the selective activity of the mind poses the problem of introducing a dimension of spontaneity into the natural explanation of the development of knowledge. Even though the spontaneous activity of the human mind is an empirical fact that is difficult to deny, authors such as Spencer prefer to avoid dealing with the theoretical difficulties that such an admission entails and rather, as we shall see, to consider: “the creatures as absolutely passive clay, upon which ‘experience’ rains down.” (PP I: 381). With his characteristic irony, James points out that following these authors in considering the sentient organism as a ‘passive mirror’ only shaped by experience – intended as a constant factor – one could imagine that even a race of dogs repeatedly exposed to visual artistic stimuli would make them expert connoisseurs in that field. Yet, James notes that: “Surely an eternity of experience of the statues would leave the dog as inartistic as he was at first, for the lack of an original interest to knit his discriminations on to.” (PP I: 381). In a nutshell, as Franzese (2009) pointed out, we can talk for James of a “natural *a priori*” in so far as “[t]he interest itself, though its genesis is doubtless perfectly *natural*, makes experience more than it is made by it” (PP I: 381).

- 29 Interest is therefore considered to be the *cause* of our attention. We may be interested in sensory or ideal objects, either directly or indirectly, voluntarily or involuntarily.²⁵ By the way, James has already defined “things” as groups of sensible qualities that interest us practically or aesthetically. Now, dealing with the effects of attention, he tightens a possible connection based on the phenomenon of the habit of attention between psychological attention and philosophical vision: “each of us literally *chooses*, by his way of attending to things, what sort of a universe he shall appear to himself to inhabit.” (PP I: 401).
- 30 Two physiological processes seem to coexist in attentive acts, namely the process of *sensorial adjustment* and that of internal *ideational preparation* of the brain-centers concerned with the object attended to. Having already pointed out the importance of voluntary attention in forming the core part of the self (Chapter X), and in view of the subsequent identification of the will with attention (Chapter XXVI), here we come to the psychological and metaphysical question of the internal forces that activate psychological attention. The issue is delicate because it affects the defense of free-will, which as we mentioned James does not find in the skeptical empiricism of Hume – a fact that offers the American psychologist a further reason for criticism. Quoting a well-known passage from Lucretius’ *De rerum natura*,²⁶ two theories can be distinguished, the so-called *effect-theory* and the *cause-theory* of attention, and James takes a clear stand in favor of the latter.²⁷ A few pages earlier, talking about the process of pre-perception (or ideational preparation) in attention, he left open the possibility of a materialistic or spiritualist reading of the *cause* of the excitement of brain-centers that comes from within the organism, not from the external object of attention. He states that: “[w]hilst the object excites it [a brain-cell] from without, other brain-cells, or perhaps spiritual forces, arouse it from within.” (PP I: 417). The answer to this question, whether it is material or spiritual forces that direct our capacity for attention, is not only a psychological option but inevitably a metaphysical one. Either hypothesis leads to different world views that James summarizes as “materialism, fatalism, monism” or “spiritualism, freedom, pluralism” (PP I: 424). The analysis of the phenomenon of attention brings us back to the controversial issue of the causal power of *feeling*, which has already been addressed in the chapter dedicated to the automaton theory (Chapter V), that is to say, whether feeling is a mere by-product of brain activity, or performs some function of control over it.
- 31 For James, it is evident that the plan by which one decides for the *effect* conception or the *causal* conception is rather metaphysical since from a psycho-physiological point of view both options are sustainable. Material laws entirely predetermine the phenomenon of attention if feeling is not recognized as having certain causal powers (*effect-theory*). Instead, if feeling has its partial autonomy of reaction concerning nervous processes, then it can be considered as a cause at least in a restricted sense. Here we have an interesting passage:
- It does not necessarily follow, of course, that this reactive feeling should be “free” in the sense of having its amount and direction undetermined in advance, for it might very well be predetermined in all these particulars. If it were so, our attention would not be *materially* determined, nor yet would it be “free” in the sense of being spontaneous or unpredictable in advance. (PP I: 424)
- 32 His restriction of the meaning of the terms in use is an essential indication of the method when talking in psychology about issues such as freedom, that have a philosophical history. However, above all, he attempts to propose a careful reading of

psychological phenomena, which, if on the one hand, it contrasts with reductionism in a strictly *materialistic* sense, does not degenerate into an equally flawed and contrary theory on the other. The effort of attention is a fundamental aspect of the conscious will, and in James's vision, there can be a collaboration between neural and spiritual forces.²⁸ As is evident, the polemical object is still the arrogance of materialistic scientism, which takes the form of Thomas H. Huxley's automaton-theory.²⁹ Already in his 1879 article "Are We Automata?"³⁰ which was later integrated into his Chapter V of *Principles*, James considered both Huxley's conscious-automaton theory and the opposite theory of common sense to be "conceptions of the possible" (EPs: 40). In particular, he stated that claiming the validity of one or the other based on aesthetic preferences or relying on direct (ostensive) evidence of the effectiveness of mental states would mark the methodological defeat of the scientific approach. In fact, against the common sense view, the materialistic mechanist view of the mind-brain relationship considers mental states to be mere shadows or by-products of neurosis.

- 33 Here James argues that psychology has to recognize that causality is a metaphysical issue. However, despite the fact that the question has to be philosophically investigated, as far as psychological investigations are concerned, the vision of common sense claims causal power for feelings and ideas, while the vision of the so-called "automatists" à la Thomas Huxley and William Clifford, denies causal power to ideas and recognizes it only to physical matter. In this way, according to James, they commit an illicit philosophical sin: either they accept Hume's lesson that causation is ultimately an unintelligible process, or they reject it entirely; one cannot pretend to adhere to the empirical perspective and then assign in principle a preference to material causality over psychic causality.
- 34 Here is a significant passage in which James says that the causal power of feelings is only to do with the reinforcement or inhibition of existing reflex currents, and that "[t]he feelings can produce nothing absolutely new... and the original organization of these [reflex currents] by physiological forces must always be the ground-work of the psychological scheme" (EPs: 141).
- 35 Echoing his criticism of Herbert Spencer smuggling in metaphysical contents after psychological definitions, James was averse to mechanistic philosophy first and foremost for *ethical* reasons. Since it is not possible to verify the effectiveness of feelings and especially of the feeling of effort – which plays an important moral role in his description of voluntary actions³¹ – the supporters of the materialistic vision should not arrogate to themselves the right to define their theory as "scientific" and discredit the others. The argument on which mechanists base their epiphenomenal theory about mental states is a reasoning by analogy, which, as James argues, is: "drawn from rivers, reflex actions and other material phenomena where no consciousness appears to exist at all, and extended to cases where consciousness seems the phenomenon's essential feature." (PP I: 429-30). In other words, it is a metaphysical and not a scientific impertinence to apply equal relationships to fields of knowledge that are not homogeneous, without considering the necessary distinctions. Thus, James proposes to find circumstantial or presumptive evidence that can make the hypothesis of common sense supportable without pretending to prove it definitively in order to avoid the risk of "non-scientific" conduct.

Non-Reductionist View of Consciousness's Causational Power

- 36 James's reception of Darwinism is evident in his early publications and becomes a relevant source for the development of his functional psychology. According to many scholars, the Darwinian argument helped James to assess the autonomy of the mind from the brain, therefore the activity of consciousness, as well as his view of the "mind as a selective industry" and the spontaneity of its ideas. His original epistemological endorsement of Darwin's logic of evolution³² emerges in disagreement with Herbert Spencer's evolutionism (1878, in EP), and even his argument against the automaton thesis (or "epiphenomenalism" as we may call it today) is revealing of this debt to Darwin's view. Now James does not only criticize epiphenomenalism as a materialistic theory but, as recently underlined by Brüntrup and Jaskolla, he also offers "an inference to the best explanation when trying to give a metaphysical account of the emergence of consciousness in evolution" (2016: 6).
- 37 James moves from the observation that consciousness is a general universal trait shared by human beings and higher animals. Within an evolutionistic framework, consciousness is an outcome of evolutionary processes, that is to say, it was selected by nature. However, to be selected, it must be useful, and therefore, it cannot be a mere by-product or inert epiphenomenon. In these first statements, James is excluding the possibility that consciousness is a mere byproduct of evolution. In other words, James's theory of the emergence of consciousness is an anti-reductionist and anti-epiphenomenalist theory.³³ Universality, complexity (and preciseness) of consciousness are essential characteristics that still today provoke biologists to decide which traits are most probably results of the pressure of natural selection.
- 38 Physiological studies offered empirical evidence for the *causal* activity of consciousness. They described "higher" brains as affected by significant instability: higher nerve centers are less specialized in their functions and perform indeterminately and unforeseeably in comparison with those of the basal nucleus. The plasticity of higher brains constitutes their most significant advantage. As a most indeterminate and vague organ, the human brain can perform multiple adaptive activities, and adapt conduct to the minutest alterations in the environment, so much so that it needs a kind of assistance in pursuing its survival. The function of consciousness results fundamentally from trying to avoid the side effects of the extreme responsiveness of our brain to the environmental stimulations.
- The brain is an instrument of possibilities, but of no certainties. But the consciousness, with its own ends present to it, and knowing also well which possibilities lead thereto and which away, will, if endowed with causal efficacy, reinforce the favorable possibilities and repress the unfavorable or indifferent ones. (PP I: 141-2)
- 39 The evolutionary theory, which agrees with the theory of common sense as to the efficacy of consciousness, generally considers consciousness as a superadded organ which grows more complex and intense at higher stages of the animal kingdom and is supposed to help animals in their struggle for existence. However, to be useful, consciousness for James has to be efficacious and influence nervous systems. The way consciousness works is described as "selective industry": it selects and corroborates particular "interests" while disregarding others according to the goals or purposes it

has already chosen. It “exert[s] a constant pressure in the right direction” by reinforcing (or inhibiting) those nerve processes that are respectively functional (or not), in order to reach the goal it has established. As James states, “the mind is at every stage a theatre of simultaneous possibilities. Consciousness consists in the comparison of these with each other, the selection of some, and the suppression of the rest.” (PP I: 277) (cf. Leary 2003). In this respect, whereas Spencer’s benchmark of adaptiveness was the perfect correspondence of the mind with its environment (say perfect receptivity), James suggests instead that the character of the indeterminacy of higher brains and the spontaneity of the mind is an advantage in evolution (EPs: 42). The passivity of the mind promoted instead by Huxley, Spencer, and other thinkers³⁴ proves to be at least less compatible both with scientific discoveries about cerebral physiology and mere observational description of human behavior. The latter shows *purposes* which are not immediately connectable with stimuli *present* in the environment (e.g., ideals, etc.). Moreover, an active and selective consciousness in organisms with “higher” nervous centers would have been a consistent reply to the geological objection to evolution. The geological time supposed to be necessary for evolution to happen would have been much reduced with the introduction of an active and selective factor such as consciousness (directionality – natural teleology). Other circumstantial evidence for the effectivity of consciousness was the correlation between subjective feelings of pleasure/pain and objective harmful/beneficial activities, as they could be explained in evolutionary terms as being effective in adaptive activities,³⁵ and in the recovery of intellectual faculties in brain-damaged people. According to Richards, James derived this argument from Darwin’s *Descent of Man* (1871), and his conversations with Chauncey Wright.³⁶ Indeed, even if he did not explicitly make clear his opinion, Darwin was probably closer to Huxley in thinking that mental faculties were determined by brain patterning (see Richards 1982: 411).

- 40 To claim the spontaneity of mind and its *impulsive* nature helps us to argue in favor of real activity and real novelty. A key aspect already revealed and carefully investigated by McGranahan, Richards, and others, is the physiological and metaphysical role of the “will” in the Jamesian vision. We must overlook here James’s long quarrel against Wundt’s conception that we have feelings of innervation. Suffice it to say that by applying the law of parsimony, whereby consciousness tends to withdraw itself from all actions which are not useful for leading us to certain ends, once some internal mechanisms are associated and work, they become imperceptible since their knowledge would be a mere complication for our ordinary life. This is also the case for many voluntary movements, once there are established connections between mental cues and particular movements. The simplest explanatory hypothesis being that these mental cues are: “memory-images of the movement’s distinctive peripheral effects, whether resident or remote.” (PP II: 1108). This brings us to the ideo-motor action theory, which, according to many interpreters, is one of the central assumptions of the Jamesian theory of will and partly feeds his formulation of the theory of truth.³⁷ More specifically, James claims not only that the idea of the sensitive effects of movement is enough to determine what our movements will be, but he also means that there is no need for the further intervention of consciousness to agree to such movements being performed: “Wherever movement follows *unhesitatingly and immediately* the notion of it in the mind, we have ideo-motor action. We are then aware of nothing between the conception and the execution.” (PP II: 1130). As is evident, reflex actions and ideo-motor actions are core assumptions of James’s theory of will. To understand his vision,

it is necessary to adopt an understanding of consciousness as embodied – as we would call it today – which for James meant that consciousness shows an *impulsive* nature. Thoughts and feelings are correlates of neural activities, they are “cross-sections [...] of currents whose essential consequence is motion” (PP II: 1134).³⁸

- 41 This brief parenthesis on the psychological conception of will shows how there is a close correlation between sensation-thought-action, and also reveals the background on which the Jamesian conception of the experience of activity as the original experience of our notion of causality is based. Deriving from the Darwinian argument, McGranahan’s analysis of the possibility of introducing real novelties by means of voluntary actions is particularly impressive.³⁹

Emergent Properties in Evolutionary Psychology

- 42 Before considering the experience of activity presented by James in 1904, we will take a look at the probably most metaphysical chapter of the Principles, or at least that which James considered as such (PP I, *Preface*), the chapter on the theory of the mind-stuff. This theory is the most radical form of the theory that our mental states are compounds. Within the framework of evolutionist theory, all the new forms of being are supposed to be results of the redistribution of original and unchanged materials. No new nature, no factor that was not present at the beginning, can be introduced at a later stage. However, the advent of *consciousness* seems to introduce something genuinely new. For however small it may be, it is a real discontinuity in nature, and this is not a legitimate assumption in a continuist philosophy. The theory of evolution works better, then, if it is possible to show that in some form, consciousness was present at the origin of the world. The doctrine of *atomistic hylozoism* is an indispensable part of a philosophy of evolution: originally there were atoms of matter that formed bodies and brains and mental atoms that always by aggregation have merged to form larger consciousnesses. The first duty of psychological evolutionism is to prove that distinct degrees of consciousness already existed before consciousness appeared. Although many authors, regardless of evolutionism, have argued for the existence of a vast amount of subconscious mental life – like Fisk, Spencer, Taine – for James, the theory of mind-stuff incurs two orders of difficulty: one physical and one logical. On the level of physical analogy, the problem is that this theory disconnects feelings from brain processes, arguing that the composition of a complex feeling takes place on the mental-conscious level without direct-immediate physical feedback. On the level of logic, moreover, the self-composition of mental facts is inadmissible. All the combinations of which we have real knowledge are effects provoked by some other entity from the combined units so that without a medium, the notion of the combination does not make any sense. Forces, material particles, mental elements cannot be added together; their sum can only exist either for an external observer who sees their combination or as some different effect produced on an external entity. As in the example of H₂O, molecules of hydrogen and oxygen combine into water, thus showing new properties. But, according to James: “‘water’ is just the old atoms in the new position, H-O-H; the ‘new properties’ are just their combined *effects*, when in this position, upon external media, such as our sense-organs and the various reagents on which water may exert its properties and be known.” (PP I: 161). The theory of mind-stuff is unintelligible for the combination of multiple psychic units can only be either a

different wording of those same units or something different, which is a new addition to those units.

- 43 The reason why James is interested in discussing the logic of the theory of mind-stuff is that the latter explains the constitution of higher mental states by treating them as *identical* to lower mental states combined. What James claims is that they are not identical but different: a higher mental state is not a collection of many lower mental states, but it is itself. The occurrence of many lower mental states, or of brain conditions that produce them, are undoubtedly the conditions for the emergence of a higher mental state. However, this emerging state will be a completely new psychic fact, which is different from saying that it is, instead, an ‘integration’ of lower mental states – as the theory of mind-stuff wants it to be.
- 44 The issue of the compounding of consciousnesses will resurface as a constant concern in James’s published and unpublished writings – not least to reply to Bode’s and Miller’s criticisms. These authors found James’s original idea that mental states are psychic units not coherent with his metaphysical notion of “pure experience.”⁴⁰ Again in lecture V of *A Pluralistic Universe*, he goes back to the initial position he had adopted in psychology against the self-compounding of higher-complex mental states from lower-simpler ones. He confesses that he could not logically accept that: “a collective experience of any grade whatever can be treated as logically identical with a lot of distributive experiences” (PU: 86).

A Radically Empiricist View of the Experience of Activity

- 45 In 1904 James was elected president of the American Psychological Association for the second time and his presidential address, then published in the *Psychological Review* in 1905, and again as Appendix B of *A Pluralistic Universe*, focuses precisely on the experience of activity. These are the years in which James published his famous article on the existence of consciousness as a function, discussing the related epistemological and metaphysical issues. He maintains a sort of interdependence of his radical empiricism with its “rules of method,” namely the Pragmatic method and the principle of pure experience: “Everything real must be experienceable somewhere, and every kind of thing experienced must somewhere be real.” (ERE: 81). Also, from this perspective he tries to respond to the psychological question: “Have we perception of activity?,” the metaphysical question: “Is there a *fact* of activity?,” and a logical question: “Whence do we *know* activity?”
- 46 There are two aspects: that the experience of activity characterizes the beings as experiencing beings; and that activity as apprehension of any change is somehow synonymous with the sense of life that, at least at a subjective level, is in continuous and changing activity. Also, in the *Essays*, James spoke of conjunction relations as the relations that a radical empiricist must try to rehabilitate, and here, activity as change is one of them. The metaphysical question concerning activity emerges in relation to whether what we feel to be activities are *real* activities. For James, some activity experiences are accompanied by desire, sense of direction, effort, and have a goal. The central question is what drives activity into being: do our feelings make activity act, or they are just signs of activity? James then considers our tendency to reduce reality to

the “immediately felt activity-situation” for the benefit of different agents: a wider consciousness, or certain ideas or certain nerve-cells. The meaning of these alternatives is pragmatically intense because not merely verbal differences, but very different actual results depend on the agent to which we choose to attribute real causal power. The alternative is in the end between materialism and teleology, or between forces acting blindly or with foresight in the world.

- 47 The metaphysical question regarding activity, in any case, depends on two beliefs regarding causality: “a belief that *causality* must be exerted in activity, and a wonder as to how causality is made.” In the end, real activities bring us to the problem of creation. At this point, James can only present his radically empiricist perspective on the matter. He states that according to the methodical postulates mentioned above, somewhere the *that* and *what* of “real creative activities” – if they exist – must be experienced as a unity. James specifies that the immediate unitary experience should not be misinterpreted. Sensations are fallible but rather as to the way we interpret them and fix their meaning. The only possible and correct starting point for us remains our concrete experience of causality. There is no possibility of getting out of it, insofar as it would mean getting out of our specific sensibility, and therefore of human life. He strongly suggests that “real effectual causation as an ultimate nature, as a ‘category’ [...] of reality, is *just what we feel it to be*, just that kind of conjunction which our own activity-series reveal” (ERE: 93-4). Here we encounter James’s effort to clarify the scope of metaphysics as a form of knowledge, as mentioned in a 1904 letter to François Pillon (CWJ 10: 409-10). James always looks for ends; his philosophy is teleological but not in an essentialist way. Understanding the nature of causation would be essential in order to use that knowledge to recognize actual causes or to foresee future developments in a more intelligent way. Quoting some passages of Royce’s review of Stout’s *Analytic Psychology*, James agrees with his colleague about the fact that metaphysical problems – such as the problem of effectual activity – are superficial unless they have a “possible use in helping us to solve the far deeper problem of the course and meaning of the world of life” (ERE: 94). Life is full of significance, full of meaning, he repeats, and without explicating this as a goal (the “pragmatic note”) – which is also an evident moral amelioration of our life and an integral engagement in all that is part of life – philosophy and psychology lose their ultimate reason for existing.

Some Remarks in Conclusion

- 48 In a note to “The Experience of Activity,” James contests the accusation of having proposed a metaphysical principle of activity. All he has deliberately sustained is rather, he writes, “the indeterminism of our efforts” (ERE: 93n). The main object of the criticism was his defense of free will, which however can be understood as the novelty that human activity produces.

the only “free will” I have ever thought of defending is the character of novelty in fresh activity-situations. If an activity-process is the form of a whole “field of consciousness,” and if each field of consciousness is not only in its totality unique (as is now commonly admitted) but has its elements unique (since in that situation they are all dyed in the total), then novelty is perpetually entering the world and what happens there is not pure *repetition*, as the dogma of the literal uniformity of nature requires. Activity-situations come in short each with an original touch. (ERE: 93n)

- 49 As one can read in this brief quotation, the attention to the personal dimension, and to the creativity of human action constitute a central aspect of all Jamesian reflection. In this perspective, the moral concern also plays a key role in James's psychology as well as in his metaphysical vision. The influence of Darwinism and his view of the emergence of fortuitous variations in nature helps James to formulate a conception of novelty as emerging from natural continuity, and to formulate an anti-epiphenomenalist argument on the emergence on consciousness.
- 50 As we have tried to show, causality plays a crucial role in this subject. On the one hand, it is one of the greatest metaphysical mysteries, and on the other hand, it is very often misinterpreted in a materialistic and reductionist sense. This is not the sense in which James understands causality, which in his view remains an open question, and in *Principles* he even talks of the possible cooperation of neural and spiritual causes. His philosophical doctrine of radical empiricism and his pluralistic metaphysics mark a step forward in this direction since he comes to postulate – in accordance with Bergson and Peirce – a gradual infinitesimal growing of reality. A question to be investigated concerns Miller's and Bode's criticism of the contradictions in James's writings on pure experience. There remains a tension between his profoundly anti-atomist conception of reality and his metaphysical pluralism, which has often given rise to many misunderstandings, and influenced the vision of other authors, including, as is well known, that emergence of Whitehead. Further reflection on these aspects would be important, as well as on the sociological interpretations of Jamesian psychology.

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NOTES

1. For an interesting reading of James's theory of truth in an emergentist sense, see Pihlström 2007.
2. See Kim 2005; Clayton & Davies 2008; Meixner 2016.
3. Achim Stephan proposes two versions of *strong* (synchronic and diachronic), and one of *weak* emergentism, but in the end stronger versions of emergentism, which are incompatible with property reductionism, can be considered "integrated" versions of weak emergentism, which is instead compatible with property reductionism. Moreover, according to Stephan, weak theories of emergence show three common characteristics: the thesis of physical monism, the thesis of systemic (or collective) properties and the thesis of synchronous determinism (cf. Stephan 1999: 50).

4. On the possibility of a “reconciling view” among the different interpretations of James as a neutral monist, physicalistic naturalist, panpsychist, and phenomenologist see Cooper 1990.
5. We know that James will be dealing with this issue of “combination” for a long time and he will return to it again in *A Pluralistic Universe*, see Moller 2001; Bella 2019.
6. As we shall see, since the late 1970s, James adopted Darwin’s distinction between “different operational cycles in nature”: the causes of production (*fortuitous variations*) and the causes of preservation (*selection*) and made this distinction an important element of his anti-deterministic conception.
7. *On the Notion of Reality as Changing* (PU: 151-4).
8. The Russian elected legislative body.
9. See Peirce’s articles on *The Monist* (1891-1893) collected in the first volume of *The Essential Peirce* (1992).
10. On this point, it is easy to observe a series of similarities with the Bergsonian conception of real actions. However, one must not overlook the differences between their two philosophical perspectives. See Madelrieux 2011; Teixeira 2011; Čapek 1950.
11. As James explains, the sensations are instead the result of a psychological work of discrimination: “No one ever had a simple sensation by itself. Consciousness, from our natal day, is of a teeming multiplicity of objects and relations.” (PP I: 219).
12. This criticism of *psychological atomism* anticipates what he writes in Chapter X about different conceptions of *Self*. From the belief in “permanent self-identical psychic facts that absent themselves and recur periodically” follows the “Humian doctrine that our thought is composed of separate independent parts” and our *Self* is a theatre of representations. Whereas, from James’s description of mental facts as vague and changing descends the description of consciousness as a sensibly *continuous stream* and the *Self* as the corresponding succession of presently felt states of consciousness.
13. This is not the result of an inference from the perception of the succession of the temporal parts of thoughts; on the contrary, it is a single sensible perception whose parts are inseparable.
14. I am referring to the critical edition edited by Burkhardt and Bowers in 1979 because, as is now well known, in 1911 Horace M. Kallen, a pupil and friend of James, edited a first version of the text based on two existing manuscripts. Ralph B. Perry revised the 1911 edition, which was introduced by James’s son, Henry Jr. James. Subsequently, with the discovery of a third manuscript revised by James himself, Kallen’s version was revised and expunged from his comments and interventions generally considered too personal (see SPP: v-ix; 153ff). In the edition edited by Kallen, the problem of novelty and its sub-problems appear from chapter IX to XIII.
15. James proposes his doctrine of radical empiricism, first in WB, *Preface*; and later in *The Meaning of Truth* (MT).
16. Cf. ERE: 93n.
17. James shows how one can shift from the original meaning of the definition to other meanings only by adding or avoiding considering some of its words. This practice led to the derivation of undue logical implications from the definition following the interpreters’ view.
18. In Darwin’s theory of evolution James detects two different cycles of operation in nature relatively independent of one other: “the causes which originally *produced* the peculiarity in him and the causes that *maintained* it after it is produced.” (WB: 167).
19. “The original form in which fact come is the perceptual *durcheinander*, holding terms as well as relations in solution, or interfused and cemented.” (SPP: 100-1).
20. In this regard, I think it is interesting to reread the debate of that period on the meaning of the explanatory capacity of psychological hypotheses. See Bella 2018.
21. John S. Mill and John Venn talk about causes respectively as *unconditional* and *close* antecedents. Peirce wrote a review of John Venn’s 1867 work *The Logic of Chance* (*Writings of*

Charles S. Peirce: A Chronological Edition, Volume 2: 98-102). John Venn is also quoted by James in chapter XXI of *Principles*, where James considers the relations of belief and will.

22. James points out that particular attention is paid to the perception of causal activity. In this regard we have a tendency to skepticism that is not found in other experiences in which we also make perceptual errors.

23. His logical objection consists in stating that since cause-effect is a transitive relation, the causal connection holds between the external terms even if the intermediate neural, muscular, and instrumental connections are skipped.

24. "Perception has given us a positive idea of causal agency, but it remains to be ascertained whether what first appears as such is really such, whether aught else is really such, or finally whether nothing really such exists. Since with this we are led immediately into the mind-brain relation, and since that is such a complicated topic, we had better interrupt our study of causation provisionally at the present point, meaning to complete it when the problem of the mind's relation to the body comes up for review." (SPP: 109).

25. There are several varieties of attention: attention can be sensorial or intellectual; immediate or derived (apperceptive); passive or active (see PP I: 395ff).

26. "*Principium quoddam, quod fati foedera rumpat, ex infinito ne causam causa sequitur.*" (PP I: 424).

27. In this case, Ewald Hering is the author of reference, even though James indicates ambiguities in his treatment, cf. PP I: 425n.

28. "No object can catch our attention except by the neural machinery. But the amount of the attention which an object receives after it has caught our mental eye is another question. It often takes effort to keep the mind upon it. We feel that we can make more or less of the effort as we choose. If this feeling be not deceptive, if our effort be a spiritual force, and an indeterminate one, then of course it contributes coequally with the cerebral conditions to the result. Though it introduce no new idea, it will deepen and prolong the stay in consciousness of innumerable ideas which else would fade more quickly away. The delay thus gained might not be more than a second in duration – but that second may be critical." (PBC: 257).

29. James's reviews of T. Huxley's *Lectures on the Elements of Comparative Anatomy* (1864) and A. Wallace's essay "The Origin of Human Races and the Antiquity of Man Deduced from the Theory of 'Natural Selection'" (1864) are in ECR: 197-205; 206-8.

30. "Are We Automata?," *Mind*, 1 January 1879, Vol. 4 (13), 1-22.

31. In Woodward's introduction to the *Essays in Psychology*, on the question of feelings of effort, James's *afferent* view of sensation is in open contrast with Helmholtz and Wundt. However, in addition to the action of muscular feelings, which refers to effect-theory, James admits moral feelings and refers to them as the cause-theory (cf. PP II: 1167n). In short, his concern is to keep together the importance of reflex actions for the current psychology and to safeguard, however, a spontaneous dimension of voluntary behavior. See EPs: xx-xxi. For an accurate and quite innovative analysis of James's moral view see Marchetti 2015.

32. See McGranahan 2017; Pearce 2018; Klein 2016; Richards 1982; Wiener 1949.

33. "As odd as it may sound today, James invokes Darwinism to defy mechanistic reductionism, rather than viewing it as part and parcel of reductionistic modern science. Today we would call James's Darwinian functionalist account of consciousness an *adaptationist* hypothesis, or a speculation about the origin of trait based upon its apparent function." (McGranahan 2017: 80).

34. James and Hodgson were attacking, and Spencer was defending what is now called epiphenomenalism, "the view that mental events are caused by physical events in the brain, but have no effects upon any physical events" (Robinson 2015). James's criticism of the causal conception of perception was recovered by Putnam (1999) against Jaegwon Kim's "psychophysical supervenience." According to Putnam, Kim's theory is a sophisticated combination of Cartesianism and materialism that still presupposes a conception of perception mediated by internal representations. Putnam clearly understood the importance of James's

criticism for “natural realism” – a notion that James tried to elaborate and that was later recovered by R. B. Perry and Montague, but also by Moore and B. Russell. The problem of Putnam’s “direct realism,” in the sense of James’s “natural realism,” was a serious problem also for philosophers of language like Austin. According to Putnam, Austin’s analysis of the language of perception can be read in close relation to James’s criticism. Only by abandoning a conception of perception as mediated by internal representations it is possible for Putnam to overcome the traditional Cartesian problems perpetrated in philosophy of mind and epistemology.

35. In his anonymous review of the *Principles of Psychology*, Peirce will respond to this.

36. James quotes Wright (1873) in his 1875 review of Wundt’s *Grundzüge der physiologischen Psychologie*.

37. As Francesca Bordogna perfectly summed up: “for James a voluntary act follows simply from the fact that one idea has been able to capture the mind’s attention, either because it succeeded in predominating over other antagonistic or inhibitory ideas, or because it was actively selected in view of certain interests or purposes of the knower. In either case, action follows simply from the motor power of the idea.” (Bordogna 1998: 88n).

38. “Movement is the natural immediate effect of feeling, irrespective of what the quality of the feeling may be. It is so in reflex action, it is so in emotional expression, it is so in voluntary life.” (PP II: 1135).

39. On James’s teleological understanding of free-will see McGranahan 2017; Bordogna 2008; Pawelski 2007.

40. See MEN: 65-129. See also Moller (2001; 2008). However, he also states: “I hold to it still as the best description of an enormous number of our higher fields of consciousness. They demonstrably do not contain the lower states that know the same objects. Of other fields, however, this is not so true; so, in the *Psychological Review* for 1895, vol. ii: 105 (see especially: 119-20), I frankly withdrew, in principle, my former objection to talking of fields of consciousness being made of simpler ‘parts,’ leaving the facts to decide the question in each special case.” (PU: 87).

ABSTRACTS

The issue of the emergence of genuinely new events in a paradigm of natural continuity has been analyzed in different fields by Pragmatists authors like Peirce, Dewey, and Mead. Another way to consider the problematic relationship between novelty and continuity is by considering William James’s understanding of causal connections. This article addresses the concept of causality that James repeatedly addressed and deeply rethought throughout his career. I believe that the concept of causality provides an excellent platform from which to view the various aspects that have made James’s epistemological and metaphysical thinking so influential in the history of theories of emergence, and which is experiencing currently a major revival.

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Dewey on Organisation

Stephen Pratten

AUTHOR'S NOTE

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1. Introduction

Certain contributors to contemporary debates about emergence emphasise the importance of the category of organisation. More specifically, some who defend a form of ontological emergence, including Tony Lawson as part of his distinctive perspective in social ontology and Bickhard and Campbell in the interactionist framework they forward, set out a particular conception of organisation.¹ They argue that as long as ambiguities associated with the term are avoided then the category of organisation underpins a coherent account of emergent phenomena. Once organisation is given sufficient prominence and a particular meaning then it is shown by these authors that a compelling account of causal and ontological irreducibility follows, and confusions associated with the notion of downward causation resolved. Both these projects also see the mode of organisation characteristic of phenomena at different levels as grounding the possibility of the development of relatively autonomous sciences.

- ¹ Dewey, especially in some of his later contributions, places considerable emphasis on the category of organisation. He makes reference to organisation in numerous contexts. For example, organisation is a central theme in *Experience and Nature* and a particular preoccupation in Chapter VII where he develops an emergent theory of mind. In that chapter he warns of the dangers associated with paying insufficient attention to organisation, suggesting that: "Organization is so characteristic of the nature of some events in their sequential linkages that no theory about it can be as speculative or absurd as those which ignore or deny its genuine existence." (Dewey 1925: 255). Earlier in the book he had linked the inadequacies of nominalism to its

failure to sufficiently recognise organisation: “Nominalism ignores organization and thus makes nonsense of meanings.” (*Ibid.*: 185). He is also concerned in the book to explore how life and mentality can be understood as reflecting different *conditions of organisation*. The category of organisation features prominently elsewhere in his later writings, in *The Public and its Problems* it is central to his understanding of the community. He writes: “a community as a *whole* involves not merely a variety of associative ties which hold persons together in diverse ways, but an organization of all elements by an integrated principle.” (Dewey 1927: 38; italics in original). Given the emphasis that Dewey places on the category of organisation in his later writings it is worthwhile considering both what he means by the term and why he sees paying it sufficient attention as necessary if certain common errors in philosophy and social theory are to be avoided.

- 2 In order to explore the meaning and significance that Dewey attaches to the category of organisation I draw a comparison between Dewey’s treatment of organisation (and related categories such as structure and association) in some of his later writings and the use of the term in strands of the contemporary debates on emergence. Initially I argue that a common understanding of organisation and its importance can be discerned in both Tony Lawson’s work on social ontology and in the interactivist perspective developed by Bickhard and his colleagues. Even though in essence the conception of organisation is the same in these two contemporary projects it is useful to consider both of these lines of recent research since the clarifications offered and illustrations deployed are rather different. By reviewing the relevant aspects of both these projects a fuller appreciation of their shared account of organisation is facilitated. I then show how this conception of organisation provides a useful basis from which to interrogate Dewey’s earlier emphasis on organisation. The meaning and significance attached to the category of organisation in these contemporary projects provides a fresh perspective from which to consider Dewey’s own concern with organisation and related terms. It is shown that in some of his later contributions Dewey anticipates important aspects of this more recent treatment of organisation.

2. Organisation, Reductionism and Downward Causation

- 3 The category of relational organisation is central to the ontological framework that Tony Lawson has recently developed and his view of how to account for emergent phenomena. As Lawson notes: “the components of emergent entities (unlike members of aggregate collections) do what they do *qua* components only because of the manner in which they are organised (arranged, structured or related) as parts of the whole.” (Lawson 2012: 351). Significantly Lawson emphasises that if we retain the customary terminology used in discussions of emergence of higher and lower levels then relational organisation needs to be both distinguished from the higher level emergent totality, whole or system and recognised as itself being a higher rather than lower level feature if emergence (understood as the appearance of novelty)² is to be adequately accounted for.
- 4 The totality is that which is organised, it is a concrete entity that has the relational organisation and this organisation may be shared with other such entities. New totalities are constituted by the new higher level relational organisation that constrain

the degree of freedom of their lower level components. Lawson argues that as the totality emerges so too does the relational organisation, without the latter there is no emergent totality merely a disorganised heap. He writes: “My contention is simply that the organisation of the lower level phenomena is itself always a novel phenomena, emerging along with any higher level totality. In other words the relational-organisation itself must be regarded as a higher (not lower) level feature, and indeed a causal property of the emergent totality or entity.” (Lawson 2012: 351-2).

- 5 Where discussions of emergence often go wrong, Lawson argues, is precisely in failing to pay enough attention to the category of relational organisation or in understanding it in only highly partial lower level terms. He notes: “relational-organisation, which entails an arrangement of lower level elements, is very often left largely under elaborated or little discussed, and treated implicitly as part of the lower level and mostly as a given.” (*Ibid.*: 351). Relational organisation rather than being understood as a constitutive constraint is too often, he suggests, treated as trivial non-constitutive properties of some set of more basic ultimately unorganised lower level components.
- 6 The interactivist framework developed by Bickhard and his associates is another ambitious ontological perspective where the category of organisation is understood as being central and indispensable if issues related to emergence are to be clarified adequately. For interactivists *constituting organisation* is seen as a locus of causal power and more than simply the stage setting for more basic causal actors: “Emergence is supposed to occur with new patterns of organisation. Clearly something new comes into existence: the pattern itself. But in order for emergence to have any metaphysical significance, something new that has its own causal efficacy some manner in which that which is new has consequences for the future of the world must come into existence.” (Bickhard 2010: 210). Just as Lawson makes a clear distinction between totalities and the relational organisation which give the former their distinctive properties and argues that both are higher level features, interactivists also insist that complex systems and the constituting organisations in virtue of which the former have their typical characteristics and modes of operation must be distinguished from one another and each acknowledged as higher level phenomena. Thus Richard Campbell suggests that the constituting organisation of a complex system captures “the way its constituent processes are constrained and regulated over time such that the integrity of the total system remains relatively stable and in virtue of which it has its typical characteristics and typically operates” (Campbell 2011: 65).
- 7 Interactivists argue the structural relations which configure constituents into a stable object belong to the whole object and they highlight that such configurations are macro-properties and not on the same level as the subsystems thus configured and therefore upper level features every bit as much as the complex total system. Campbell writes “The organization of any complex system is a macro-property of that system, constituted by the relations which configure its subsystems into specific dynamic patterns” (Campbell 2015: 261). Interactivists argue that it is a mistake to interpret organisation as a lower level property: “Since the structural relations which configure lower-level entities and activities into a whole system belong to the system as a whole, they are *not on the same level* as the properties of what is thus configured.” (*Ibid.*: 220). For interactivists an adequate account of emergent phenomena can only be developed once organisation is recognised as a higher level feature “it is how [...] constituents are organized which generates the novel, higher level properties – and that organization is

a holistic, macro level feature, not a property of its constituents. And the properties it generates are indeed emergent.” (*Ibid*).

- 8 For Lawson and the interactivists a certain form of causal pluralism accompanies their emphasis on distinguishing the relational (or constituting) organisation from the structured totality and acknowledgment of their simultaneous emergence. There are entities at both the higher and lower levels and these entities possess distinct sets of efficient causal powers but as the entity at the higher level emerges so too does its relational organisation and this is also causal but in a different way. Lawson illustrates using the example of a house under construction:

The components include bricks, mortar, wood, panes of glass, cement, etc. Of course there will be a context, a plot of land, and this will be prepared so that the various components can relate to it in an appropriate manner. At any stage in the process of construction an observer will find not only the part of the building constructed so far, formed out of various components, but also the relational organisation of the latter components (to each other, and to elements in their environment). And this organisation will be essential to the house’s construction and properties. As the house is completed, so is the relational organisation of the house’s components; the two – the totality and the organisational structure – emerge simultaneously. Each are causal, but in different ways. The house has the power to provide safety and shelter, to facilitate family or other indoor activities, to be bought and sold and so on. The arrangement of the parts makes the house feasible. The latter is a form of formal causation. (Lawson 2013: 64)

- 9 In similar fashion interactivists emphasise the need to avoid the error of collapsing all forms of causality onto efficient causality. Constitutive organisation is specifically associated with a version of formal causality. Richard Campbell notes that “those properties which are dependent upon the mode of organization of a system’s constituent parts are not the same as the properties of those parts. Different sets of similar constituents can manifest over time the same dynamic constituting organization in this sense, and generate the same kinds of properties and powers. If we think of the difference between kinds of entities as arising from their having relatively stable, cohesive but different forms of organisation, constituting organization proves to be the contemporary and temporalized analogue of an Aristotelian form.” (Campbell 2011: 66).
- 10 Lawson and the interactivists recognise that proponents of ontological and causal reductionism often seek to ground their position by identifying some ultimate or basic entities that themselves are viewed as lacking organising structure. Once such a foundational level is posited then all higher level entities can be seen as being composed from these basic building blocks and then often only causation at this level of elementary and simple entities is seen as being of real or proper scientific concern. Both Lawson and the interactivists argue that once organisation is sufficiently recognised then these forms of reductionism can be easily resisted. Lawson notes that even were it possible to identify any such unstructured, basic entities this would not yet shore up claims of ontological and causal reducibility since the emergence of any higher-level causal properties would still depend upon how the lower level (fundamental) elements were organised, i.e., relational organisation would still be a formal causal factor. Thus, even with these assumptions any higher-level causation, being a real property of emergent forms of organisation, would like the relational structure from which it derives, be synchronically irreducible and so warranting of

scientific investigation at its own level despite the supposedly fundamental nature of the elements so organised.

- 11 Lawson goes on to suggest that the best available interpretations of modern physics provide no support for the idea that there are any simple, unstructured, basic entities that might constitute some such foundational level. He writes: “according to quantum field theory, or at least its seemingly more explanatory powerful interpretations, if there is anything that underpins everything else it is quantum field processes and the phenomena that appear to be particles are the resulting effects of the quantisation of field excitatory activity. The particle-like elements are in fact said to be ‘quanta of excitation or field quanta.’ As such they are effectively emergent forms of organisation displaying particle like behaviour.” (Lawson 2012: 356). For Lawson an implication of this kind of interpretation is that any reductionist style privileging of one particular level of organisation over all others is unjustified since “although there are, or can be, relations of dependency between organisations at different levels, there need be no ultimate or base level in quantum field theory, and so no reason for asserting that any one pattern or organisation of process is more fundamental, elementary, genuine, real or basic than any other; all remain of potential interest to science” (*ibid.*: 356).
- 12 Interactivists also emphasise that even where properties of the higher level system may be accounted for in aggregative terms organisation nonetheless remains fundamental. Campbell writes that where:
- “cohesive systems” (i.e., entities) are formed, in many cases one can speak of their having components as their proper parts. Typically such entities manifest properties different from those of their parts. With respect to certain properties, this difference is merely one of quantity; the whole has at least some properties of the same kind as its proper parts. Such properties do result from an aggregation of the properties of their components [...] In such cases, the properties of the whole can be explained by an exhaustive and exclusive decomposition of the system into its proper parts. Nevertheless, it is important to note that, even in cases like this, more is involved in being a cohesive and causally effective aggregate than simply the arithmetical sum (that is, a bare conjunction) of its components. Those components have to stick together, somehow or other, in order to constitute a cohesive entity – and sticking together requires internal bonds between the components. (Campbell 2015: 204)
- 13 Interactivists also draw on interpretations of modern physics to suggest that ultimately it seems unlikely that there are any basic particulars which themselves lack organisation and form the fundamental constituents out of which everything in the world is composed. According to Campbell and Bickhard:
- From the beginning of the twentieth century, physics has been dogged by a series of deep theoretical inconsistencies that are not yet fully resolved. But enough theoretical progress has been made for some conclusions of metaphysical significance to be drawn. What our best contemporary physics reveals is that there are no elementary particles, elemental events, or some such particulars; everything is composed of quantum fields of various scales and complexity. Quantum field theory shifts the basic ontology of the universe from micro-particles to quantum fields in process. What have seemed to be particles are now conceptualised as particle-like processes and interactions resulting from the quantization of field processes and interactions. (Campbell & Bickhard 2011: 45)
- 14 From the kind of perspective developed by Bickhard et al, the world consists of organised fields of process all the way down and all the way up, there is no privileged base level. Campbell writes:

The development of physics since the beginning of the twentieth century has provided explanations of how quantum fields are organized in various ways so as to yield the different kinds of elements ordered in the periodic table. And chemical theory has explained how those various atoms combine to produce even richer variety of kinds of molecule. It follows that the world is composed of organized fields in process – all the way down and all the way up. Everything there is has now to be understood as emerging from organizations of energy. (Campbell 2015: 70)

- 15 Discussions of emergence are often bound up with the notion of downward causation.

Lawson is critical of how many of these discussions of downward causation are formulated viewing them as often being thoroughly confused (Lawson 2012: 352). He worries that the notion of downward causation often ends up encouraging the acceptance of a picture that disguises the importance of relational organisation by depicting two levels of entities moving as it were in parallel, with entities at the lower level causally acting upwards and wholes or totalities at the higher level also having efficient causal impacts on their parts. As noted above Lawson argues that it is important to carefully distinguish between any emergent system or totality and the organisational relational structure of the system's components. While these two – the totality and the relational organisation – emerge simultaneously they are not identical, they make a difference in distinct ways. He states that when adopting a diachronic (as opposed to a synchronic) criterion for distinguishing levels both the organising structure and the totality lie at the higher level. There are social systems or totalities with their own efficient causal powers. However, the organising relations also make a difference, they do so through a type of formal causation influencing how the components interact. The totality is then the sum of its constituent components and the organising relational structure and causally acts through rather than on its components. Lawson notes:

Wholes act through their parts acting and their parts are coordinated in their actions through the emergent irreducible relational structures that organise the lower level elements as (perhaps through modification) components of emergent wholes [...]. Thus, an army attacks through the actions of its soldiers (or guided weapons); a school educates through the interactions of its members; a football team scores through a player scoring. Parts of a whole though interact with, and relate directly to, not a whole but each other and the organising structure. (Lawson 2015: 6)

- 16 Lawson further illustrates by referring to the familiar example of a crowd. The crowd certainly emerges through individuals interacting in a context and this emergent totality has powers of efficient causality so, for example, traffic may be delayed as walking on the relevant roads takes precedence over driving. Crucially though, the individuals in their interactions draw not on the crowd behaviour as a totality but on the relational structure that organises individuals as components of the latter. So Lawson notes:

With any crowd a somewhat novel organising relational structure emerges (and is continually reproduced and/or transformed). Individuals are obliged to walk in a given direction, to seek to avoid colliding with others, and so move at an emergent speed. Also rights of interaction can emerge that, in different contexts, are not typically readily open to relative strangers [...] But always the organisational structure that emerges will be formed out of pre-existing context specific collective practices, including the rights and obligations they carry. (Lawson 2013: 71)

- 17 For Lawson if downward causation is used to express the idea that an entity or whole (synchronically) causally impacts upon its parts then the notion is simply untenable. A

whole cannot act in this manner since the whole is composed out of the latter. Much of the discussion of downward causation is problematic, according to Lawson, because it fails to consistently draw the distinction between emergent totalities and the organising structures on which they depend, an error that he speculates is encouraged by the two distinct inflections associated with the term organisation: “In processes of emergence the lower level elements become organised as components of the emergent entity or whole, and so we can refer to the organisation of the components. But the category organisation is also regularly employed to refer to the totality including the lower level elements that have become (re)organised.” (Lawson 2012: 352).

- 18 Interactivists express similar concerns about the relative neglect of organisation when they question the coherence of conventional talk of “emergent bases” within the literature on emergence. They highlight that it is far from clear that the notion of *emergence base* is coherent once organisation as a holistic relational feature is acknowledged. Campbell elaborates using the familiar example of water. He writes that in the case of water:

it seems simple to specify the base from which a molecule of water emerges: it is those atoms [of hydrogen and oxygen]. The implicit claim is that the proper parts of a molecule of water are two atoms of hydrogen and one atom of oxygen, *and nothing else*. But that is too simple; some force holds the atoms in a molecule together. A more sophisticated and informed version of this claim would acknowledge the forces within the molecule, but give them a particle interpretation. Thus, the proper parts of a molecule of water would be two atoms of hydrogen and one atom of oxygen, plus elementary particles whose exchanging holds the molecules together. This, however, is still inadequate. There is more to a molecule of water than two hydrogen atoms and one oxygen atom plus some elementary particles; there is the *pattern* of the relationship between them, and that patterning of the process, its *organization*, is what determines the emergent properties of water. (Campbell 2015: 198)

- 19 Interactivists have tended to persevere with the term downward causation but seem sensitive to the kinds of distinctions Lawson views as crucial if a coherent account of emergent phenomena is to be elaborated. For example, as noted earlier, interactivists interpret the kind of influence that constitutive organisation has as a type of formal causality. The higher level constitutive organisation is construed as constraining the efficient causal interactions between the system’s components by selecting among a wide set of interactional possibilities (Bickhard & Campbell 2003). Indeed downward causation seems to be a label used to refer to this formal influence of the constitutive organisation with respect to its parts.
- 20 For both Lawson and the interactivists organisation serves to ground the relative autonomy of the individual sciences. All forms of established science, according to Lawson, have objects of study that are effectively emergent forms of organisations and each science is especially concerned with the irreducible causal properties of the entities that populate their respective domains of study. So, for example, it is – he suggests – precisely because the social realm has a distinct mode of organisation that a relatively autonomous social science remains entirely feasible. From the interactivist group Campbell, deploying the language of levels, writes: “we should note that each level is defined by the kinds of entity (‘object’) with their distinctive modes of interaction, which exist on that level. The distinctive entities, properties, and interactions which define a level constitute the domain of a particular science. That is the categorical inferences licensed by an individual science imply an ontology of

entities of a certain kind or kinds, possessing distinctive properties and distinctive modes of interaction.” (Lawson 2015: 196).³

3. Dewey on Organisation, Structure and Association

- 21 There are striking correspondences between the characterisation of (and significance attached to) organisation in the contributions of Lawson and the interactivists and that found in certain of Dewey’s later contributions. Dewey too highlights the need to pay close attention to the category of organisation if prominent types of error in philosophy as well as social theory are to be avoided. The commonalities are especially pronounced where Dewey (writing with Sidney Hook and Ernest Nagel) responds to criticisms concerning the form of naturalism and materialism they are taken to advocate. In clarifying their shared position they address issues that would now be linked to debates about reductionism and downward causation.
- 22 Dewey and his associates argue that it is a significant mistake to regard some structured unity and its properties as in any sense being separated off from its parts and their organisation and capable of directly controlling its constituents in some external, unmediated fashion. In elaborating upon this theme, they emphasise the need to recognise the significance of organisation. In order to illustrate the relevant issues they consider the example of water molecules:

For suppose a chemist were asked whether he believed that the properties of water are at “the beck and call” of hydrogen and oxygen atoms, or whether he thought that water “controlled” the behaviours and properties of its constituents. Would he not reply that the questions are meaningful only on the assumption that the properties of water are not only *distinguishable* from those of its constituents taken singly or in isolation from each other, but are also *substantially distinct* from the properties of hydrogen and oxygen atoms when these are related in the way in which water molecules are organized? On the other hand, the chemist would certainly maintain that the existence of water and its properties is contingent upon the combined presence of certain elements interrelated in definite ways. But he would call attention to the fact that when these elements are so related, a distinctive mode of behaviour is exhibited by the structured unity into which they enter. Nevertheless, this structured object is not an *additional* thing which, in manifesting its properties, controls from some external vantage point the behaviour of its organized parts. The structured object in behaving the way it does behave under given circumstances is simply manifesting the behaviour of its constituents *as* related in that structure under those circumstances. (Dewey, Hook & Nagel 1945: 520-1; italics in original)

- 23 In a manner that anticipates the concerns Lawson raises against some contemporary accounts of downward causation, Dewey and his colleagues see any reification of structured unities and the attribution to them of the power to interact downwardly upon their own parts as highly problematic reflecting insufficient attention being paid to the relevant forms of relatedness through which the parts are organised. The existence of water depends on both individual components *and* organising relations. The structured unity cannot directly act on its parts since it is composed out of (and only acts through) the later. However, at any point in time the organising relations of the structured unity can and do make a difference to how the components interact. For Dewey and his collaborators the constituents of a sample of water do what they do as constituents of that structured unity only because of the manner in which they are organised (related or arranged). It is precisely when, and due to the manner in which

the (pre-structured) constituents are so organised or related that the distinctive properties associated with water become feasible. It is only then that the organised component parts make the contribution they do to the structured object. The emergence of the structured unity and the organising structure is taken to be part of one and the same development.⁴

- 24 In parallel fashion Dewey, Hook and Nagel regard mentality as a quality emergent from a special organisation of physical processes, it is only the organised system of the living body as a whole that gives rise to the sensations experienced when certain brain states are activated. The emphasis is upon the need to distinguish between the organised whole and relational organisation and on seeing the two as arising together:

The naturalist proceeds in an essentially no different manner in giving his account of the status of minds. Like the chemist in reference to the properties of water, he maintains that the states and events called mental exist only when certain organizations of physical things also occur. And also like the chemist, he holds that the qualities and behaviours displayed by physical things when they are properly organized – the qualities and behaviours called mental or spiritual – are not exhibited by those things unless they are so organized. But these qualities and behaviours of organised wholes are not additional things which are *substantially* distinct from the properties and behaviours of spatio-temporal objects in their organized unity. Accordingly, naturalists most emphatically acknowledge that men are capable of thought, feeling, and emotion, and that in consequence of these powers (whose existence is contingent upon the organization of human bodies) men can engage in actions that bodies not so organized are unable to perform. In particular, human beings are capable of rational inquiry, and in the light of their findings they are able to “redistribute” spatio-temporal things so as to ensure the arrival and departure of many events both physical and mental. They achieve these things, however, not as disembodied minds, but as distinctively organized bodies. (Dewey, Hook & Nagel 1945: 521-2; italics in original)

- 25 Dewey, Hook and Nagel conclude the relevant section by highlighting that organisation or arrangement is always central to the constitution of structured wholes and in accounting for their distinctive properties regardless of whether the focus is on water, minds or artefacts – such as clocks:

To the naturalist, at any rate, there is no more mystery in the fact that certain kinds of bodies are able to think and act rationally than in the fact that cogs and springs arranged in definite ways can record the passage of time or that hydrogen and oxygen atoms ordered in other ways display the properties of water. “Things are what they are, and their consequences will be what they will be; why then should we desire to be deceived?” (*Ibid.*: 522)

- 26 In this response the terms organisation, arrangement, order and relation seem to be used almost interchangeably. In *Experience and Nature* Dewey, at times, deploys the further term structure when considering the kind of organising relations characteristic of artefacts and uses the example of a house to illustrate. Just as with regard the category of organisation in the joint response to the critic considered above, Dewey when elaborating on this example insists that structure is a property of the totality – the realised construction. The totality and the organising structure emerge for Dewey simultaneously, they are not identical and neither should be neglected. On Dewey’s account it is the organising structure that makes the house feasible – it serves as a condition of its possibility. He argues that in recognising structure and its role it is necessary to avoid isolating it from the totality since to do so would be to encourage a

confused understanding whereby organising structure is taken as somehow mysteriously existing without anything actually being organised. He writes:

A house has a structure; in comparison with the disintegration and collapse that would occur without its presence, this structure is fixed. Yet it is not something external to which the changes involved in building and using the house have to submit. It is rather an arrangement of changing events such that properties which change slowly, limit and direct a series of quick changes and give them an order they do not otherwise possess. Structure is constancy of means, of things used for consequences, not of things taken by themselves or absolutely. Structure is what makes construction possible and cannot be discovered or defined except in some realised construction, construction being, of course, an evident order of changes. The isolation of structure from the changes whose stable ordering it is, renders it mysterious – something that is metaphysical in the popular sense of the word, a kind of ghostly queerness. (Dewey 1925: 72)

- 27 For Lawson and the interactionists the focus on organisation grounds their rejection of causal and ontological reductionism. That is, they agree that an adequate recognition of organisation serves to counter any notion that emergent properties, including causal powers of emergent totalities, depend solely on and are entirely predictable from a knowledge of the properties of the various elements that are eventually organised as components. Dewey too is anxious to resist such forms of reductionism. At times this is expressed in general terms, for example, in *Logic: A Theory of Inquiry* he writes:

The primary postulate of a naturalistic theory of logic is continuity of the lower (less complex) and the higher (more complex) activities and forms. The idea of continuity is not self-explanatory. But its meaning excludes complete rupture on the one side and mere repetition of identities on the other; it precludes reduction of the “higher” to the “lower” just as it precludes complete breaks and gaps. The growth and development of any living organism from seed to maturity illustrates the meaning of continuity. (Dewey 1938: 23)

- 28 This kind of anti-reductionist stance encourages Dewey to take up the more concrete challenge of advancing powerful accounts of phenomena or systems that exist at various levels. In doing so, organisation is central to the discussion. His accounts of both life and mind in *Experience and Nature* are explicitly framed in terms of organisation. The category of organisation is important for Dewey’s attempt to account for how such phenomena, while being fully integrated with the rest of the natural world, can still be meaningfully distinguished. It is in terms of their respective conditions of organisation and corresponding modes of interaction that he seeks to differentiate them from other types of phenomena and from one another. For Dewey “while there is no isolated occurrence in nature, yet interaction and connection are not wholesale and homogenous” (1925: 271). He writes:

As life is a character of events in a peculiar condition of organization, and feeling is a quality of life-forms marked by complexly mobile and discriminating responses, so “mind” is an added property assumed by a feeling creature, when it reaches that organized interaction with other living creatures which is language communication. (*Ibid.*: 258)

- 29 Fundamental to understanding the characteristic features of a domain is consideration of the relevant conditions of organisation. Life is understood by Dewey as being constituted by a complex organisation of natural sub processes (or events) and mind by an organisation of physiological processes:

Unless vital organizations were organizations of antecedent natural events, the living creature would have no natural connections; it would not be pertinent to its

environment nor its environment relevant to it; the latter would not be usable, material of nutrition and defence. In similar fashion, unless “mind” was, in its existential occurrence, an organization of physiological or vital affairs and unless its functions developed out of patterns of organic behaviour, it would have no pertinency to nature, and nature would not be the appropriate scene of its inventions and plans, nor the subject matter of its knowledge. (*Ibid.*: 286)

30 Dewey opens the chapter in *Experience and Nature* concerned with mind with the observation that: “Personality, selfhood, subjectivity are eventful functions that emerge with complexly organized interactions, organic and social.” (*Ibid.*: 208).

31 In *Experience and Nature* Dewey is not satisfied with simply noting how organisation is central to differentiating types of phenomena but also explores, in an empirically informed manner, the conditions of organisation and modes of interaction distinctive of living organisms. In considering what distinguishes the living body from the inanimate he focuses in on that specific form of organisation in which the interactions are regulated in such a way as to maintain the system in being as an integral whole despite variations in external conditions:

The interactions of the various constituent parts of a plant take place in such ways as to tend to continue a characteristically organized activity; they tend to utilize conserved consequences of past activities so as to adapt subsequent changes to the needs of the integral system to which they belong. Organization is a fact, though it is not an original organizing force. Iron as such exhibits characteristics of bias and selective reactions, but it shows no bias in favour of remaining simple iron; it had just as soon, so to speak, become iron-oxide. It shows no tendency in its interaction with water to modify the interaction so that consequences will perpetuate the characteristics of pure iron. If it did it would have the marks of a living body, and would be called an organism. (*Ibid.*: 254)

32 Both with regard the mind and the distinctively social Dewey is similarly concerned to give further content to the specific condition of organisation he sees as distinguishing these phenomena. For Dewey it is important to recognise that we are both embodied and yet emergent always in essential interaction with our environments and cultures. He writes:

“body-mind” simply designates what actually takes place when a living body is implicated in situations of discourse, communication and participation. In the hyphenated phrase body-mind, body designates the continued and conserved, the registered and cumulative operation of factors continuous with the rest of nature, inanimate as well as animate; while “mind” designates the characters and consequences which are differential, indicative of gestures which emerge when “body” is engaged in wider more complex and interdependent situation. (*Ibid.*: 285)

33 The properties of mind on Dewey’s account are grounded in, emergent from but irreducible to the living body.

34 When focussing in on the specifically human realm and how to distinguish it Dewey sometimes deploys the term *association* rather than organisation but it seems to serve a similar function. He writes:

Everything that exists in as far as it is known and knowable is in interaction with other things. It is associated, as well as solitary, single. The catching up of human individuals into association is thus no new and unprecedented fact; it is a manifestation of a commonplace of existence. Significance resides not in the bare fact of association, therefore, but in the consequences that flow from the distinctive patterns of human association. There is again nothing new or unprecedented in the fact that assemblage of things confers upon the assembly and its constituents, new properties by means of unlocking energies hitherto pent in. The significant

consideration is that assemblage of organic human beings transforms sequence and coexistence into participation. (*Ibid.*: 175)

35 When the focus is on life and mentality Dewey's concern is with specifying the conditions of organisation characteristic of these phenomena, when his attention turns to the social he is interested in specifying the distinctive patterns of association that distinguish human sociality.

36 This theme of the distinctive characteristics of the social are taken up in Dewey's paper "Social as a Category" of 1928, where once again the notion of association is prominent. He writes:

If reference to association is to be anything more than a ceremonial and barren act of deference, if it is to be used in any enterprise of philosophic description and understanding, it indicates the necessity of study and analysis of the different modes of association that present themselves in experience. And the implication of our argument is that in such a comparison of definite types of association the social, in its human sense, is the richest, fullest and most delicately subtle of any mode actually experienced [...]. Association in general is but a matrix; its filling are the facts of association actually displayed in nature. Indeed, the category of association is but a highly abstract notion of what is formally common to the special modes. (Dewey 1928: 165)

37 According to Dewey social groups, such as the family, manifest properties and powers which are novel and distinctive:

[I]n the social the physical is taken up into a wider and more complex and delicate system of interactions so they take on new properties by release of potentialities previously confined because of absence of full interaction. The same consideration applies to the inclusion within the social of the vital or organic. The members of society are living beings with the characteristics of living creatures; but as these enter into distinctly human associations their strictly organic properties are modified and even transformed. Certain physiological factors of sex, of procreation, immaturity and need of care, are assuredly implicated in the functions expressed in family life. But however great the role of animal lust, there is something more in any family association than bare physiological factors. (*Ibid.*: 169-70)

38 For Dewey certain powers of coordinated interactions are available to individuals *qua* members of human communities that would not have emerged if human individuals were instead mere biological beings that just happened to be situated in close space-time proximity. He insists that reductionist and supernatural interpretations of distinctively social phenomena can be avoided since given his general framework there is an obvious empirically compelling alternative understanding available:

The fact of transformation of the purely organic by inclusion within the scope of human association is so obvious – note the significant change of cries into speech – that it has indeed led to belief in the intrusive intervention of unnatural and supernatural factors in order to account for the differences between the animal and the human. The disjunction between the assertion that the human is merely animal and the assertion that an extraneous force is obtruded is not however exhaustive. There remains an alternative which is most fully confirmed by empirical fact, namely that the difference is made when new potentialities are actualised, when the range of interactions that delimits the notion of the organic is taken into the wider and more subtly complex association which forms human society. (*Ibid.*: 170)

39 In elaborating upon his account of that form of association that is distinctively human Dewey in *The Public and its Problems* places particular emphasis upon the rights, duties and responsibilities that individuals acquire as they enter into different associations. His initial example is that of marriage.

A single man when he is joined in marriage is different in that connection to what he was as single or to what he is in some other union, as a member, say, of a club. He has new powers and immunities, new responsibilities. He can be contrasted with himself as he behaves in other connections. He may be compared and contrasted with his wife in their distinctive roles within the union. But as a member of the union he cannot be treated as antithetical to the union in which he belongs. As a member of the union, his traits and acts are evidently those which he possesses in virtue of it, while those of the integrated association are what they are in virtue of his status in the union. The only reason we fail to see this, or are confused by the statement of it, is because we pass so easily from the man in one connection to the man in some other connection, to the man not as husband but as business man, scientific investigator, church member or citizen, in which connections his acts and their consequences are obviously different to those due to union in wedlock. (Dewey 1927: 189)

- 40 For Dewey individuals behave differently depending on the kind of integrated association they become enrolled into as in each case they will be faced with specific sets of rights and duties. He develops his theme by considering as a further illustration the modern corporation. The corporation is seen by Dewey as manifesting properties and powers which are novel and distinctive, not manifested by the singular human members who in part constitute it. Individuals within the corporation are given distinct statuses and the corporation itself is seen as acquiring certain rights. He writes:

A corporation as such is an integrated collective mode of action having powers, rights, duties and immunities different from those of its singular members *in their other connections*. Its different constituents have also diverse statuses – for example, the owners of stock from the officers and directors in certain matters. (Dewey 1927: 190; italics in original)

- 41 Dewey in considering the case of the corporation restates his worries about the common tendency, as he sees it, to reify structured unities now exploring how this manifests itself at the level of social ontology. Dewey is keen to emphasise that the corporation as an integrated association only acts through its components. The individuals who are parts of the corporation interact not with corporate behaviour as a totality but are faced with specific sets of rights and obligations and act on the basis of these and thereby contribute as an element in this specific form of integrated association:

Since the corporation can do things which its individual members, *in their many relationships outside of their connections in the corporation*, cannot do, the problem is raised as to the relation of the corporate collective union to that of individuals *as such*. It is forgotten that as members of the corporation the individuals themselves are different, have different characteristics, rights and duties, than they would possess if they were not its members and different from those which they possess in other forms of conjoint behaviour. But what the individuals may do legitimately as members of the corporation in their respective corporate roles, the corporation does and vice versa... An individual cannot be opposed to the association of which he is an integral part nor can the association be set against its integral members. (*Ibid.*: 188-9)⁵

- 42 Dewey also draws on the corporation when seeking to illustrate the validity of and need for relatively autonomous social science research. Thus, in *Experience and Nature* corporations are understood as being entirely dependent on the interactions of human beings and yet an irreducible objective reality deserving scientific investigation every bit as much as electrons are. He writes:

What is a Corporation, a Franchise? A corporation is neither a mental state nor a particular physical event in space and time. Yet it is an objective reality, not an ideal Realm of being. It is an objective reality which has multitudinous physical and mental consequence. It is something to be studied as we study electrons; it exhibits as does the latter unexpected properties, and when introduced into new situations behaves with new reactions. It is something which may be conducted, facilitated and obstructed, precisely as may be a river. Nevertheless, it would not exist nor have any meaning and potency apart from an interaction of human beings with one another, an interaction in which external things are implicated. (Dewey 1925: 197)

- 43 The implication here seems to be that the corporation is a system that has distinctive properties and is part of a social reality that has emerged (and continues to emerge) from non-social phenomena which constitutes a relatively distinct order requiring separate scientific study.⁶ Thus, like Lawson and the interactivists, Dewey maintains that at the level of the social there are real irreducible system features that constitute objects of knowledge and that will often only be understood through lengthy processes of scientific investigation.

4. Concluding Remarks

- 44 The category of organisation is central to the way that two contemporary projects account for emergent phenomena. Both Lawson's project in social ontology and the interactivist framework Bickhard and his collaborators develop highlight organisation as a fundamental category that once sufficiently elaborated serves to counter causal and ontological reductionism and resolve ambiguities associated with the notion of downward causation. Moreover, within these projects different modes of organisation ground the possibility of the development of relatively autonomous sciences.
- 45 Organisation, alongside related categories such as structure and association, feature prominently in certain of Dewey's later contributions. The emphasis on organisation in Dewey's later works anticipates the prominence the category receives in the two contemporary projects considered. In *Experience and Nature* and some other later works Dewey emphasises the need to recognise organisation so as to fend off reductionism and highlight the dangers of reifying structured unities and seeing them as capable of directly acting on their components/parts. Furthermore, Dewey defends the possibility of a scientific engagement with distinctively social phenomena. The pattern of association characterising social phenomena mean they are irreducible to lower level phenomena – he views corporations for example as being just as real as electrons and equally legitimate candidates for scientific investigation.
- 46 Insight regarding the significance Dewey attaches to organisation, and closely aligned categories such as structure and association, in some of his later contributions can be obtained by considering his relevant writings alongside the treatment of organisation found in modern projects that seek to systematically theorise organisation. The account of organisation and the importance attached to it in the two contemporary projects is anticipated to a significant extent by Dewey in some of his later writings. Despite the interesting correspondences and overlaps between the two contemporary projects considered and aspects of Dewey's later work there is no claim that these three projects are in any sense identical. While it can be shown that they share a broad emphasis on organisation and it serves a similar role in precluding ontological and causal reductionism, this does not mean that they characterise the modes of

organisation operative at distinct levels in the same manner. Tracing out the similarities and differences in the characterisation of different modes or conditions of organisation would constitute a further project.⁷

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NOTES

1. For discussion of key elements of the interactivist framework, a project initially located in the field of theoretical psychology, see Bickhard 2009, 2010 and 2018. Lawson 2019, Pratten 2015, and Faulkner, Pratten and Runde 2017 provide context regarding Lawson's contributions to social ontology. Lawson has long been located in the Economics Faculty at Cambridge University, his focus on social ontology was encouraged by a growing appreciation that the current disarray and explanatory failure of the economics discipline could only be accounted for by adopting an explicitly ontological orientation (see Lawson 1997). As he has elaborated his ontological project he has engaged with others promoting the study of social ontology – for a detailed comparison of Lawson's perspective with that advanced by John Searle, see Lawson 2016a.

2. It is important to note that for Lawson emergence refers just to the appearance of novelty, it marks the spot where something new arises out of what already existed. Emergence is not itself seen by Lawson as doing any explanatory work. Thus, in an exchange with John Searle he writes: "I use the term emergence primarily to capture any processes whereby some pre-existing elements become organised into a totality or system, a system that is novel or unprecedented in relation to those elements and their context. In addition, I use the term emergent in reference to the totality itself, its causal properties, and the organisation of the elements. I do also express these developments by saying such novel features somehow emerge. However, the manner in which they do so is always a matter of investigation. None of the terms are interpreted as explanatory." (Lawson 2016b: 429).

3. For a broader comparison of Lawson's project in social ontology and the programme of research pursued by the interactivists, see Pratten 2013.

4. This example of water already appears in Dewey's *The Public and its Problems* where it serves the same purpose of highlighting the problem of treating the whole as an isolated entity capable of acting on its own parts. For Dewey it is important, whether considering social or natural systems, to recognise that the structured unity only ever acts through its parts as related or organised in a distinctive manner. He writes: "it is absurd to suppose that a society does away with the traits of its own constituents so that it can be set over against them. It can only be set over against the traits which they and their like present in some other combination. A molecule of oxygen in water may act in certain respects differently than it would in some other chemical union. But as a constituent of water it acts as water does as long as water is water. The only intelligible distinction which can be drawn is between the behaviours of oxygen in its different relations,

and between those of water in its relations to various conditions, not between that of water and the oxygen which is conjoined with hydrogen in water.” (Dewey 1927: 188-9).

5. The emphasis on the whole acting through its parts rather than directly upon its parts was already noted earlier in the same book: “Individual human beings may lose their identity in a mob or in a political convention or in a joint-stock corporation or at the polls. But this does not mean that some mysterious collective agency is making decisions, but that some few persons who know what they are about are taking advantage of massed force to conduct the mob their way, boss a political machine, and manage the affairs of corporate business. When the public or state is involved in making social arrangements like passing laws, enforcing a contract, conferring a franchise, it still acts through concrete persons.” (Dewey 1927: 18).

6. The example of the corporation is indicative of Dewey’s broader commitment that there are emergent structured unities that can become the focus for a series of relatively autonomous sciences. Dewey indicates this kind of view where he quotes Meyer with approval: “We recognise that throughout nature we have to face the general principle of unit-formation, and the fact that new units need not be a mere sum of the component parts, but can be an actually new entity not wholly predictable from component parts and known only through actual experience with the specific product.” (Dewey 1925: 145). The recognition of the reality and causal relevance of a series hierarchically arranged complex systems and processes implies the existence of a number of orders of nature. For one contemporary attempt to distinguish between such emergent orders, which itself is informed by the work of Dewey and other pragmatists, see Cahoon 2013, where five orders of nature are examined – described as the physical, material, biological, mental and cultural.

7. A comparison of Lawson’s account of the nature of social reality and Dewey’s commitments at the level of social ontology would likely be especially valuable. Testa (2017) argues that Dewey’s social ontology has certain strengths over that defended by John Searle. Lawson in a number of critical exchanges with Searle argues that the, ultimately, ideational social ontology that he takes Searle to be advancing fails to sufficiently recognise a practical dimension underpinning social interactions (see Lawson 2016a). An important theme to explore in any such comparison is whether, and in what sense, Dewey acknowledges such a practical dimension. The comparison could extend to an evaluation of how each project draws out the implications of their ontological positions for an understanding of social change, for Lawson’s views on the possibilities for emancipatory social change see 2019, chapter 8 and for Dewey’s interactionist social ontology of democracy, see Frega, 2019, chapter 4.

ABSTRACTS

In some of his later contributions Dewey places particular emphasis on the category of organisation. Organisation features prominently both in his later metaphysical writings and in some of his more substantively focussed contributions. Organisation is also a central category for two contemporary ontological projects, namely Tony Lawson’s perspective on social ontology and the interactivist framework developed by Mark Bickhard and his collaborators. In these modern naturalist perspectives, the thorough theorisation of organisation is seen as crucial in accounting for emergent phenomena, resisting ontological and causal reductionism and resolving ambiguities associated with certain formulations of downward causality. This paper compares Dewey’s remarks on organisation in his later writings with these contemporary

treatments of organisation and argues that Dewey anticipates some of the insights that have been systematically set out in these modern programmes of research.

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Evolution and Emergence

Comparing C. Lloyd Morgan's Emergentism and G.H. Mead's Processual Ontology

Guido Baggio

AUTHOR'S NOTE

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Introduction

- 1 In the winter of 1895-1896, the British zoologist and comparative psychologist C. Lloyd Morgan delivered some lectures in Boston, New York and Chicago. While in Boston delivering the Lowell Lectures, published the very same year with the title *Habit and Instinct* (Morgan 1896), he stayed for a week in the house of William James, to whose theory of emotion he dedicated part of his lectures. In the preface of the volume he also mentions the evolutionary biologist Charles O. Whitman, at the time head professor of the new-born Department of Biology at the University of Chicago, with whom Morgan spent some time during his stay, working on experiments on instinct theory with pigeons.¹
- 2 We can suppose that when Morgan was in Chicago he also met George Herbert Mead.² Mead arrived at the University of Chicago in 1894, at the time when he was trying to explain emotion and the organic evolution of habit, attention and mind within an experimentalist physiological perspective. In particular, Mead was focusing on physiological psychology and psychophysics as well as on comparative psychology, of which Morgan, as disciple of George J. Romanes, was one of the main proponents. It is therefore highly possible that Mead attended Morgan's lecture on "Instinct and Habit" at the University of Chicago, and we can also conjecture that they had the chance to discuss their common interests: they were both deeply concerned with physiological psychology and the evolutionary processes in behaviour. In support of our conjecture is

the fact that Mead wrote a critical review of Morgan's *An Introduction to Comparative Psychology*, published the following year (Mead 1895b). What is even more interesting, however, is the fact that early in the twentieth century both Morgan and Mead elaborated their own theories of emergence and emergent evolution in which their respective research interests found a philosophical synthesis. The Gifford Lectures, published with the title of *Emergent Evolution* (Morgan 1927) are in fact Morgan's philosophical explanation of the evolution process and his philosophical testament, whereas the Carus Lectures, published posthumously with the title *The Philosophy of the Present* (1932) represent Mead's last attempt to elaborate a theory of emergence through which to interpret the theory of the evolution of mind and language he had developed over the years.

- 3 In what follows we will try to detect the most significant turning points on the parallel intellectual paths that led Lloyd Morgan and Mead to develop independently their theories of emergence, taking as a starting point the lectures given by Morgan in the United States. Both theories of emergence are in conditioned the reflections that the two thinkers had developed over the years and which have their roots in the early 1890s.
- 4 The article will be developed as follows. I briefly describe Morgan's conception of organic and mental evolution as elaborated in the 1890s and summarised in his Lowell Lectures. I introduce, then, Mead's early writings on psychophysics and comparative psychology, pointing out a similarity between Mead and Morgan's ideas on organic and mental evolution at that time. Then I examine their theories of emergence from the 1920s, pointing out more interesting similarities and dissimilarities.
- 5 The aim of the article is to make a contribution to the contemporary debate on emergence by focusing on two authors that first elaborated a theory that tried to synthesize the biological, the psycho-physiological and the social dimensions of emergent processes. The debate about the concept of "emergence" is in fact particularly varied (see Kim 1999, 2005, 2006a,b; Cunningham 2001; Pihlström 2002; El-Hani 2002; El-Hani & Pihlström 2002; Chalmers 2006; Bedau & Humphreys 2008; Okasha 2012; Humphreys 2016; Sartenaer 2016; Lota 2017; Tononi & Koch 2015; Hodgson 2000; Sawyer 2001; Lawson 2013).³ Shedding light on the conceptions of two of the main figures in the history of the theories of emergence would contribute to a more richly-articulated and complete historical-theoretical understanding of a debate which is being currently renewed.

Lloyd Morgan between Ontological Monism and Epistemological Dualism

- 6 Morgan presented the Lowell Lectures at Boston, New York and Chicago, and published them with the title *Habit and Instinct* (Morgan 1896). He was at that time deeply committed to evolution theory and James' functionalism.⁴ More specifically, he was studying the relationship between the hereditary aspects related to the genes⁵ and the role behaviour plays in the variation of those aspects, developing his observation of behavioural traits of different types of animals that prefigured those in more complex organisms. It is from these observations and interests that he wrote *An Introduction to Comparative Psychology* (1903 [1894a]), which soon became the manifesto of the modern comparative psychology and behaviourist movement. *An Introduction* represented in

fact a shift away of Morgan's attitude towards comparative psychology from a first critical acceptance of Romanes' approach based on a systematization of the available anecdotal evidence towards a thorough-going experimental approach (Costall 1998; Boakes 1984). We find here formulated what was later known as "Morgan's canon," which became a central and founding principle that has profoundly determined the history of comparative psychology, illustrating the overcoming of the pre-scientific and anthropomorphic dimensions of zoopsychology as it had been presented by George John Romanes.⁶

- 7 Following this new approach, in his Lowell Lectures Morgan presented some of the results of his studies and observations on animal behaviour and described the relation of organic and mental evolution as based on the interaction between congenital instincts and inherited habits, from an evolutionary perspective. His main thesis was that organic evolution occurred in the working together of plastic modification and germinal variation, and therefore habits and instincts were the expression of respectively individual modification and congenital variations of germinal origin. At the basis of this thesis was the hypothesis that ontogenetic evolution of complex neural states begins with simpler energy states in the germ-plasm, concluding that advanced states of consciousness evolved from infra-conscious states corresponding to energy transformations in the germ-plasm (Morgan 1903: 329), and that infra-consciousness, which always accompanies brain action, is associated with all forms of energy.⁷
- 8 Building upon this hypothesis, in *Habit and Instinct* he contended that instinctive activities are characterized by a certain amount of definiteness which is hereditary and "not acquired in the course of individual experience." Whereas, habits are the result of individual acquisition, and are "stereotyped by repetition in the course of the experience of the organism" (Morgan 1896: 16-7). Modifications as such, therefore, are not inherited but are the condition under which "congenital variations are favoured and given time to get a hold on the organism, and are thus enabled by degrees to reach the fully adaptive level" (*ibid.*: 321).⁸
- 9 In this frame, where does consciousness fit? Morgan, who in *An Introduction* referred to William James (borrowing from his conception of consciousness), argued that the emergence of consciousness is part of the first instinctive response of an individual organism to a sensible stimulus which provides the initial experience by which subsequent conscious guidance of behaviour is controlled. The co-ordination involved on the occasion of the first performance is automatic, or instinctive, and cannot be regarded as under the guidance of consciousness. However, the carrying out of the activity furnishes data to consciousness in the light of which "the subsequent performance of a like activity may be perfected, or modified, or checked." (Morgan 1896: 6). The "initial bit of conscious experience" (*ibid.*: 135) therefore emerges with the primary experience-data, already grouped according to the nature of the organic response, and it is related to a "blind" impulse, that is, an internal state which prompts us to perform certain actions (*ibid.*: 138).
- 10 However, Morgan was ambiguous on what an "impulse" is, defining it as a "state of consciousness" regarded as the result of physiological conditions with certain organic accompaniments. The ambiguity is related to the fact that, on the one hand, Morgan identified impulse with a state of consciousness; on the other hand, he specified that the presence of a conscious impulse in the case of an instinctive activity is hypothetical but that one may legitimately infer from observed facts that "the organism under the

influence of a stimulus or complex group of stimuli is thrown into a state of unstable equilibrium, and that stability is reached through the appropriate response” (*ibid.*: 140). It seems, in other words, that on the ontological level he assumed the core thesis of the functionalist psychology, according to which psychic phenomena are not separate elements, but maintaining it together with an epistemological more classic parallelist perspective on consciousness.⁹ This idea followed from Morgan’s epistemological view as deeply rooted in an evolving ontological monism which he was developing during those years.¹⁰ His rejection of Cartesian ontological dualism in favour of a monism, according to which brain and mind are the same stuff,¹¹ went together with his epistemological dualism, according to which mind and matter were both “constructs,” or outcomes of different analyses of experience: that of the psychologists – the conscious experience, that is the “metakinetic” manifestations –, and of the physiologists – the “kinetic” manifestations.¹² In other words, Morgan was seeking to join together an epistemological associationist perspective with an ontological monism. However, despite his conviction that physiological common descent was something like an *a priori* truth, Morgan could not dismiss so easily the problem raised by the qualitative gaps between organisms.

Mead on Energy and Comparative Psychology. Some Early Sporadic Connections to Lloyd Morgan’s Works

- ¹¹ As mentioned in the introduction, Mead had known about Morgan’s works since the 1890s. He was critically interested in Morgan’s ideas and it would make sense that he attended his lecture on “Instinct and Habit” at Chicago in 1895. Mead was at the time increasingly involved with an experimentalist physiological perspective through which he wanted to explain emotion and the organic evolution of habit, attention and mind. In a letter to the Deweys of 1895, Mead reported some results of a research study on stimulus and adaptation, arguing that he discovered the synthetic principle at the basis of the development stated in biology, namely “that every advance is the response of the organism to new or enlarged food supply i.e. a response to a *stimulus* not to an *influence*” and that “adaptation of the sensomotor system, at anyone prior – distinguished from the alimentary system can then take place only within the comparatively narrow limits set by advance made in the alimentary system in response to the new stimulus.”¹³ He then concluded that his discovery would have allowed him to “harmonize Darwin Weissmann Loeb,” that is, to harmonize Darwin’s idea that natural selection needs variation and the heredity of at least a part of it, with Weissmann’s theory of hereditariness of germline cells independently from somatic cells and Loeb’s theory that environmental factors affect growth, development, and behaviour.¹⁴ In other words, Mead was convinced that he had discovered the synthetic principle of variation, selection, and hereditariness, on which, as we have seen, Morgan was also working at that time.¹⁵
- ¹² In his 1895 review of *An Introduction to Comparative Psychology*, Mead welcomed Morgan’s work as an attempted overcoming of the homocentric character of psychical analysis, which has distorted comparative psychology. He also noted that the monism postulated by Morgan was not really in contrast with his dualistic standpoint on the physical and psychical aspects, which could be regarded, according to Morgan’s analysis, indifferently as two aspects of the same curve or as simply running parallel with each

other. Mead identified that Morgan's thought, in fact, was dominated by analogies between the two aspects. However, as he specified, such analogies were just "makeshift": an expedient carrying with them much error for being incompletely analysed and abstracted. He then highlighted the limit of the conceptual apparatus of comparative psychology since the treatment of the physical and the psychic was addressed, with little success, in terms of analogy, without any attention to the purely logical distinction between the physical and the psychic. He thus denounced the lack of an in-depth analysis of the fundamental concepts, since the analogies were, to his eyes, rather gimmicks than the explanations themselves and had the value of illustration rather than true knowledge (Mead 1895b: 401).¹⁶ He was of the opinion that comparative psychology needed "a thoroughgoing analysis of its fundamental concepts to put it upon its feet," by freeing its tools, "i.e., in the definite formulation of a psychological method as ultimately distinct from those of the physical and biological sciences" (Mead 1895b: 400).

- 13 In the following years, he developed his research with at the basis the idea that the ontogenetic study of the mental phenomenon in human beings is closely intertwined with the phylogenetic study of human consciousness in distinction from inferior forms of life. Although Mead criticised the epistemological limits of Morgan's comparative psychology, from a methodological perspective which was similar to Morgan's, Mead found in the observation of behaviour an indispensable method for the study of the psychic processes of the subject involved in the interactions with physical and social environment. "Behaviour" became the key notion since it allowed to interpret psychophysical processes in a broader social perspective through which to analyse the social act in which psychic phenomena were expressed.¹⁷ It has to be noted, however, that even if the method of the observation of behaviour became a key element of Mead's social-behavioural approach to language and mind, he did not accept John B. Watson's reductionist approach.¹⁸ On the contrary, he believed that it was not possible to explain psychic phenomena by just referring to external behaviour, and regarded "mental behaviour" as just as functionally essential as non-mental behaviour to human conduct, but partially explainable through the latter.
- 14 Mead's investigations finally resulted in a bio-social perspective of the organic continuity of the physical and the psychical, according to which the emergence of minds and selves are rooted on the:
- innate or hereditary [...] physiological mechanism of the human central nervous system, by means of which the genesis of minds and selves out of the human social process of experience and behavior – out of the human matrix of social relations and interactions-is made biologically possible in human individuals. (Mead 2015: 237n)
- 15 This perspective was in line with the idea Morgan expressed in *Emergent Evolution*, according to which in any organism there is something *physiologically* given that "affords only a physical basis on which there is founded the conscious reference that supervenes" (see Morgan 1927: 107). Like Morgan, Mead also finally came to interweave psychological reflections into a broader philosophical fabric in order to highlight the close interdependence between the emerging nature of the psychic sphere with respect to physical phenomena and the emerging nature of the knowledge process of the surrounding reality.

- 16 To better understand the precise connections between Mead and Morgan, let's now move on to their theories of emergence.

Evolution and Emergence: Morgan's Emergentism and Mead's Processual Ontology

- 17 The Gifford Lectures, delivered in 1922, are Morgan's philosophical explanation of the evolution process which became a milestone of first-generation organicists. As already mentioned, his idea, elaborated in 1890s, that advanced states of consciousness emerged from infra-conscious states corresponding to energy transformations in the germ-plasm, and that infra-consciousness was associated with all forms of energy accompanying brain action, forced Morgan to adopt a more fundamental monistic view which, however, "brought him precipitously close to the brink of panpsychism," though eventually "did not hurtle him headlong into that doctrine" (see Richards 1977: 19-20). Thus, he thought the idea of an emergent evolution could be a solution to the epistemological gap. He first used the term "emergence" in 1913 (Morgan 1913: 29-33), referring to J. S. Mill's and G. H. Lewes' concepts of emergence.¹⁹ Hereafter Emergence became a foundational premise to address from a philosophical perspective the qualitative gaps between organisms and the evolutionary incongruities.²⁰ In particular, Morgan (1927) recognized the core role of the notion of emergence and he tried to overcome epistemological associationism by moving towards an evolutionary epistemology that seemed more in line with the assumptions of an ontological monism, showing his constructive dialogue with a number of contemporary figures who were engaged more or less explicitly with the question of the "advent of novelty" (Morgan 1927: 2), from Samuel Alexander to Henri Bergson, Alfred North Whitehead, and Bertrand Russell.
- 18 Some years later, in December 1930, Mead delivered the Paul Carus Lectures, in which he sketched out a processual ontology that presented a bio-social account of emergence similar to Morgan's. Similarly to Morgan's *Emergent Evolution*, one of the dominant strains of Mead's *Philosophy of the Present* is the philosophy of nature considered as the characteristic contribution of the Anglo-American philosophy of the 1920s, pioneered by Alexander's *Space, Time, and Deity* (1920).²¹ However, differently from Morgan, Mead engaged more with his interpretations of Bergson's vitalism and Whitehead's hypothesis of the organization of perspectives in nature (Whitehead 1919; 1920; 1925), as well as with an interpretation of the theory of relativity considered from a social point of view.²² He attempted to develop a synthesis with respect to the possible integration of his social-behavioural psychology with the theory of relativity, and to avoid a psycho-physical dualism and a reductionist naturalism. It is therefore comprehensible that he used a terminology that was more familiar to him.

Relatedness and Sociality

- 19 In his lectures, Morgan proposed a doctrine of emergence that he considered "the very antithesis" to any mechanistic interpretation of life and mind (Morgan 1927: 8). In particular, he contended that in evolution all emergent events proceed on the hypothesis that "there is a natural, coherent, and consistent plan of relatedness to which its interpretation has reference." Therefore, the "emphasis on orderly

relatedness as a feature of reality worthy of such emphasis forms a plank in the platform of emergent evolution” whose reality has “relatedness, fundamentally orderly” as a cardinal feature (*ibid.*: 181-3). Accordingly, emergence is some “new kind of relation” (*ibid.*: 64), namely, a new entity that appears at each ascending step. As Morgan argues:

That which becomes the stuff at the higher level of emergence is never quite what it was at the lower level from which it was derived – otherwise one would have resultants only and not emergence. Under emergent evolution there is progressive development of stuff which becomes new stuff in virtue of the higher status to which it has been raised under some supervenient kind of substantial togetherness. (*Ibid.*: 192-3)

- 20 Morgan refers to the supervenience of new kinds of relatedness on the basis of which the ways in which the lower-level events are involved run their course differently in virtue of the presence of the supervenient event. So that, when life is supervenient, the physical events involved run their course differently in virtue of its presence. He then distinguishes between *intrinsic* and *extrinsic* relatedness, the first being that “which obtains wholly within any given system,” whereas the extrinsic relatedness is that of a system to some other systems (*ibid.*: 19). In more general terms, any entity as such is an instance of relatedness. A person, an organism, an atom, are instances of relatedness in any concrete situation in which they play their part, each in respect to others. And “it is as an integral whole of relatedness that any individual entity, or any concrete situation, is a bit of reality” (*ibid.*: 69).
- 21 Within this framework, the passage from inorganic to organic life, and to mind, is part of an emergent evolution in due historical order. Morgan gives a diagrammatic expression of emergent evolution as a pyramid (Figure 2) that responds to a double constraint: “(i) that imposed by the constitutive structure of nature; and (ii) that imposed by the regulative structure of a logical field as such” (*ibid.*: 179). So that each higher entity in the ascending series is an emergent “complex” of many entities of lower grades, within which a new kind of *relatedness* provides integral unity.

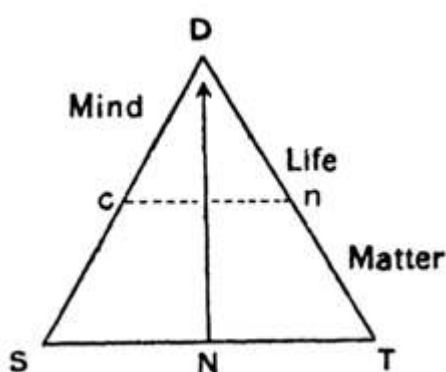


Figure 1

- 22 Life and mind are unified with the material and emerge through natural departures in the evolutionary passage of physicochemical events. Emergent evolution is “merely the recognition that new phases of the same underlying stuff have radically different, unpredictable characteristics, and that these traits have come about seemingly *de novo* over the course of time” (Peterson 2016: 74). So that which is recognized as conscious

life, sentience, even logic, evolves as reconfigurations in the way the underlying mind-stuff relates to itself:

When two or more kinds of events, [...] as A, B, and C, co-exist on one complex system in such wise that the C kind involves the co-existence of B, and B in like manner involves A, whereas the A-kind does not involve the co-existence of B, nor B that of C, we may speak of C, as, in this sense, higher than B, and B than A. Thus, for emergent evolution, conscious events at level C (mind) involve specific physiological events at level B (life), and these involve specific physico-chemical events at level A (matter). No C without B, and no B without A. No mind without life; and no life without “a physical basis.” (Morgan 1927: 15)

- 23 New stages of emergence are not discontinuous to the previous one, so that reflective consciousness involves as its natural basis a lower plane of consciousness, which is at the infra-conscious level. This level is unreflective and perceptual, and in like manner involves a basis of life on which it is founded; and this again involves a physico-chemical basis on which it, in turn, is founded. So that in proceeding downwards in the pyramid of emerging evolution, the ultimate basis is a world of purely physical events (and their correlates) in the changing spatial and temporal relationship. But the way in which natural events take place at each level depends “on the kind of relatedness supervenient at that level” (*ibid.*: 60). In other words, there are different epistemological levels from which to regard entities in relation. In the universe as a natural system all relatedness is intrinsic; on the other hand, for an electron as a physical unit, all relatedness is extrinsic. Within any given instance of relatedness the terms and their relation are homogeneous. That is to say that relation is continuous and the events are fluent in nature. The same is true with the time-interval between two moments: it is “just the temporal relation that it is” (*ibid.*: 75). Space-time is intrinsic and extrinsic to physical events but not *a priori* to them. The fluency of events is in that which is methodologically conceived as a space-time frame. In this frame, no relation is divisible. But it is possible that under some method of conventional treatment, say that of mathematics, an indivisible spatial or temporal distance may be co-related with a “stretch,” that is with an extension (a kind of specious present), which is divisible and may comprise as many terms as we choose to make therein.
- 24 Under internal relations things in some ways change in their intrinsic nature under *causal* influence. For instance, when moon and earth are set in a joint field of gravitative relatedness, each is intrinsically changed through the differential strain that results, with tidal deformation of some measure. The external relations, on the other hand, do not make any difference to the things as things. For instance, whether a book be on the shelf or on the table makes no difference whatever to the book as a thing, which is what it is in this respect. However, regarded as a place-term in homogeneous relatedness with another such term, its position between two others on the shelf is quite different from that which it holds when it lies on my desk. In this sense, its “positional status is of the so-called internal order; and its character, as spatial term in this respect (not, of course, as thing), is thus determined” (*ibid.*: 78).
- 25 Now, Mead’s idea, in fact very similar to Morgan’s, was that of a connection, of a “relatedness,” among factors that are part of an evolutionary process which allows the possibility of new events to emerge. In his theory of emergence he uses the term “social” with a similar meaning as Morgan uses the term “relational.”²³ According to Mead, in fact, the world is a complex of emerging events that develops diachronically, and it is important to pay attention to what preceded what is taking place so that “the

direction of temporal progress may determine what the world is going to be” (Mead 2002: 45). In this frame, in which the *emerging/continuous* dialectic is played out, the evolutionary process allows the possibility of *qualitatively* new events, which when they happen appear discontinuous, but which the process of adaptation links to the continuous process of evolution through a reconstruction that involves both the event and its structural context. Every new element diverts the direction of the future and evolutionary history towards unpredictable paths and at the same time determines a reinterpretation of the past – seen as the set of determining conditions in the light of the new element that has emerged.

- 26 Mead referred to the *principle of sociality* as an explanatory principle of the dynamic interaction between the acting perspectives, trying to give an experiential reading of the *temporality of thought*. In fact, he argued that the process of the emergent phenomenon is displayed in a *diachronic* extension of the present in which the dimensions of past and future are included in the light of emerging novelty, and as a function of the conditioned and the conditioning. In particular, at the opening of his Carus Lectures, Mead claimed that “reality exists in a present” (*ibid.*: 35), the latter being “a certain temporal process going on in experience” (*ibid.*: 45). Referring to Bergson’s notion of “duration” (Bergson 1910), he notes that the present always implies the interweaving of the different elements of a state, not only in the sense that what is taking place extends to what comes next, but also in a rather more “pragmatic” sense, according to which such interweaving is at the root of meaning and value in things (Mead 1936: 297). The present is, therefore, a temporal diffusion of events extended enough to make it possible for the event to be what it is; or, as Whitehead (1925: 104) would have said, the event realizes itself as a totality “within the *specious presents*.” One event is distinguished from another for its being a becoming which affects the inner nature of that event.²⁴ A present, in contrast with the abstraction of mere passage, is not a fragment cut outside the temporal dimension of the uniform becoming of reality. Its primary reference is “to the emerging event, i.e., the occurrence of something which is more than the processes that have led up to it and which by its change, continuance, or disappearance, adds to later passages a content that they would not otherwise have possessed” (Mead 2002: 52). The social nature of the present arises out of its emergence. Identifying sociality with this result is merely identifying it with the system. If emergence is a characteristic of reality, this phase of adjustment, which takes place between the ordered universe before the emergent arose and the universe after it coming to terms with the newcomer, must also be a characteristic of reality. Mead refers to “the phase betwixt and between the old and the new system” (*ibid.*: 73). The social is, then, “the capacity of being several things at once” (*ibid.*: 75). In Mead’s view, the essential nature of the present is therefore emergent in its becoming and disappearance, and in the process of readjustment that the emergent implies. As Bella argues, the events that emerge thus reveal “a *social form* precisely in the perceived *actuality* of their emergence and directed with respect to the present.” In this form, the past is “the conditioning that, preserving previous systemic relations, emerges in the present from the way in which the relationship between events develops and, in part, the condition for the development of the reality that is immediately imminent” (Bella 2016: 66).
- 27 Similarly to Morgan, Mead contended that any variation that occurs in the world is a qualitative novelty that finds the conditions of its emergence in the relational context in which it originates, and in turn reconstructs the same context starting from an

evolutionary novelty which cannot be reduced to its conditions. However, it is important to note that differently to Morgan, Mead does not admit a teleological perspective. According to Morgan, in fact, emergent evolution is the expression of an orderly and progressive development of nature in which the new emerging character, namely some new kind of *relatedness* among pre-existing events, is unpredictable before its appearing, for “*ex hypothesis*, there are *no such events* as yet in existence” (Morgan 1927: 6). However, Morgan specified, “if there be a natural plan of emergence, then every effect is strictly determinate in accordance with the nature of that plan.” Novelty itself shall be mentioned under the rubric of *causation*, being “caught up in the web of causal nexus under suitable acknowledgment.” This means that unpredictability is not due to the nature of novelty, rather to “our partial knowledge of the plan of emergence up to date, and our necessary ignorance of what the further development of that plan will be” (*ibid.*: 282). There is, in other words, a “natural plan” that we cannot know *a priori*, but that is part of the causal nexus explicable by a causal explanation, once that novelty has emerged. To Morgan’s idea of relatedness is thus linked the relation between logical sense and natural direction. There is a sense of the relation which is characteristic also of the logical relation. Where we are dealing with some passage of events, in objective regard, the logical sense is accordant with the direction of passage. There is, in other words, a diachronic connection which has an evolutionary origin. However, even where there is an onward flow of events in the space-time frame that we construct for their interpretation, we may think of them either as downstream or upstream, forwards or backwards.

- 28 Differently from Morgan, Mead considers the single act to be teleological, not the natural order. The conditions of the emergence, while necessary, do not determine in its full reality that which emerges, but are present in it. Thus, although the emerging event is conditioned by the past, it cannot be deduced from it, nor can it be causally reduced to it. And since the present is not entirely determined by past conditions, the past did not contain the present when it appeared. The past is in continuity with the present only *a posteriori*, through a reconstruction that selects the conditions for the explanation and justification of the emergent. Between emergent event and the conditions under which it occurs, there is a *causal relation* which sets up a *history* relative to that event that can be seen as a *historical emergence*.²⁵ This means that the emergent event is not caught up in the web of a causal nexus, exactly because there is not, according to Mead, a “natural plan of emergence” (so that every effect is strictly determinate in accordance with the nature of the plan), and the emergent event is not new only because of our “necessary ignorance of what the further development of that plan will be” (Morgan 1927: 282). What the environment or social structure represents is a “statement of the world out of which the emergent has arisen, and consequently the conditions under which the emergent must exist, even though this emergence has made a different world through its appearance” (Mead 2002: 69). The world has become a different world because of the event, and the “new” world, that is the new system of relations, retroacts changing the previous laws.

Minded Behaviour

- 29 Another similitude between Morgan’s and Mead’s theories of emergence is the centrality attributed to behaviour and perception in the explanation of the emergence of the mind and selves.

30 Morgan's phylogenetic explanation of the emergence of consciousness is in fact repeated in his ontogenetic explanation, in which individual consciousness emerges from lower levels at different stages. According to Morgan, there is a stage in the individual development of an organism at which consciousness is eventually emergent, when there are sensory presentations that carry no meaning; at such a stage a behaviouristic interpretation is sufficient to catch what happens, even if we acknowledge psychical correlates. Behaviour towards "*this or that thing*," in fact, is the "natural progenitor under emergent evolution, of conscious reference to *this or that object*." However, behaviour does not initially "*depend on conscious reference*" (Morgan 1927: 107). One has therefore to distinguish between the primary behaviour on the level of life and the secondary, that is, "minded" behaviour which "seeks and finds again on the plane of consciousness." But Morgan specifies that the behaviourist "will not allow" such a "minded" behaviour (*ibid.*: 110). It is worth noting that Morgan explicitly refers to the "behaviourist" for he is decidedly criticising Watson's reductionist version of behaviourism. By referring to "minded behaviour" he, probably unknowingly, was in line with Mead's version of behaviourism, according to which it is not possible to deny the functional role of consciousness. Mead uses in fact the expression "mental behaviour" to highlight thinking processes (Mead 2015). More specifically, Mead (1936: 392 ff.) distinguished a double perspective from which to consider the notion of "behavior": the Watsonian perspective, which considered the process of the organism from an external point of view, and the Deweyan perspective, which also included in human behavior the different values associated with the notion of "consciousness." This second perspective, based on the organic circuit theory (Dewey 1896), which interpreted consciousness in functional terms as an experience of the interaction of the individual with the physical and social environment, made it possible to overcome the reductionist pattern of stimulus-response – an echo of the ancient dualism between sensation and idea – and to consider human conduct as the active product of the inhibition of actions initially related to physiological impulses. The peculiarity of human consciousness results therefore strictly from its intertwinement with a physiological system. In particular, thanks to the elaboration of a theory of perception that indicated in the manipulative capacity the bio-social element of connection between higher physiological and cognitive processes, and in the cooperative process of behavioural interaction based on primitive social instincts (Mead 2001) the condition of possibility of learning shared meanings, Mead managed to overcome the limits of psychophysical parallelism (Mead 1908; 1938). The experience of manipulation marks the border between animal and human perceptive abilities. Thanks to manipulation organism form a perceptive consciousness of the sensible stimulus, giving rise to a meaning of the object manipulated. In this framework, the mind is the evolutionary result of a transfer of the significant behavioural-based semantic from something external and physical, that is fully implemented in the field of social experience and in the individuals' inner space of a symbolic-based semantic.

31 This is a further element that allows us to assimilate Morgan's theory to Mead's explanation of the genesis of the mind and selves.²⁶ Unknowingly in line with this perspective, in fact, Morgan argued that what is perceptually minded is "a set of signs, [...] which primarily, for purpose of behaviour, are referred to centres of physical effluence thereby signified" (Morgan 1927: 196). To "perceive" as well as to "mind" the world is to attribute to it some practical meaning, which can be an unreflective or a reflective meaning. The first has immediate utility for practical behaviour, whereas the

second has mediate value for conduct. As Morgan argues, through its relation to meaning the presentation of the object is raised to the level of a percept which “is not a resultant but an emergent with a quality which is genuinely new.” In other words, “no meaning, no percept; and no perception, no object thereof” (*ibid.*: 98). Accordingly, there is no separation between the sensory nucleus that is given in presentation and something else that is revived in re-presentation. They are what is minded under perception and can only be distinguished under analysis. The image is hence an image of the object, the name of which is a sign. The sign has reference to that which is signified and “shall serve as a guide to behaviour towards the thing that is signified” (*ibid.*: 238). To express it differently, the sign has a behavioural character. This implies that some properties of an object belong wholly to the acknowledged thing and their very existence demands a relatedness with persons and with their way of behaving accordingly.

- 32 Nevertheless, Morgan’s explanation of the link between sign and behaviour is very lacking and superficial. He does not offer any answer to the question of the passage from a pre-linguistic semantics to a linguistic one, i.e. symbolic-conceptual, leaving the question unresolved and in so doing recurring in the old associationist perspective. Mead, by contrast, offers a perspective that provides a hypothesis that is still relevant today.²⁷ In particular, he refers to *gestures* as communicative devices in the triadic relation between organisms, and between organisms and environment. Through gestures, seen as organic preparations for action, the cooperative acts emerge, in the sense that the individual’s gestural and vocal responses arise in answer to indications of various movements performed by other individuals of the group. In other words, gestural conversation expresses a kind of “self-socialization” process of the organism. Such a process depends on the organism’s bio-social mechanism of simulation of social response (Mead 1964: 100; 140): imaginative ability and the social context in which it is situated are the two components developed thanks to the evolution of gestural interactions (Mead 2015: 45-7).

A Perspective Ontology of Selves

- 33 Even if the physical world exists independently of any sensory acquaintance, it is nowise affected by individual’s perception of it, and in particular by her seeing it. Morgan believed that so far as the outer world functions as a term in the cognitive relation, that is as percept, it is what it is in virtue of that relation, and as such it takes its status in internal relatedness. As a term under such relatedness its *esse* is *percipi*, but only as term, not coincidentally as thing. In other words, it is what Mead would have called “the world that is there” (Mead 1938), which, however, *qua* minded, is founded primarily on the correlated outcome of receptor-patterns, and it is the outcome of a prolonged evolutionary process in which “vision has come to play the leading role,” but it is co-related with other modes of sensory experience, especially “that of contact-treatment founded on the more primitive data of touch supplemented by manipulation” (Morgan 1927: 47).
- 34 From the ontogenetic perspective, both Morgan and Mead assumed the hypothesis of psycho-physical correlation, arguing that at each level there is one kind of *relatedness* which can be distinguished as correlation. Consciousness is therefore a quality of the person, as a mind-body correlation. Mind emerges within the personal system, and all

that is minded is intrinsic to the psychical system, belonging to the *bio-graphy* of persons. Thus, if we consider a person as a mind-body system, there are many events that concur at all levels of reality. There are physio-chemical events, organic events, conscious events, all of which are integrated in the running of the system as a whole and their quasi-independence can only be considered via conceptual analysis. A person is at once part of the natural system (physical laws and neuro-biological states, or what Morgan called “life”) which makes her locomotion possible, and part of the social system which is a part of the life system. As Mead puts it:

The point is that a body belonging to a system, and having its nature determined by its relations to members of that system, when it passes into a new systematic order will carry over into its process of readjustment in the new system something of the nature of all members of the old. So in the history of a community, the members carry over from an old order their characters as determined by social relations into the readjustments of social change. The old system is found in each member and in a revolution becomes the structure upon which the new order is established. (Mead 2002: 77)

- 35 It is interesting to note that like Mead, Morgan also contended that a person is a different term in each different relation. She becomes a new term, and in this becoming the terms “spring into existence with the relations as such in the course of evolutionary progress” (Morgan 1927: 73). The persons are in relations like the earth and the moon are in gravitational relation, and for science they are just gravitational terms within the universe of discourse. It is not a question of what they are “made of,” but of the nature of their relatedness. The terms are applied to persons or things in virtue of the offices they hold in relation to other persons or things.
- 36 Like Morgan, Mead refers to the theory of relativity to analogically stress sociality as a constitutive feature of the natural and human world. He argued that the relativity of space and time with respect to the reference systems and the order in which events take place would imply a *perspective ontology* in which individuals organize in the present the events from their space-time point of view and reproduce their own schemes of action in the passage, acting in reality according to their perspectives.²⁸ The order, however, is not arbitrary, i.e., subjectivistic, but it is in all respects constitutive of reality, precisely because reality itself is patient with such sentient individuals and is given according to their perspectives. In other words, although the theory of relativity conceives for each individual his own space-time world between these worlds, there is some uniformity that leads us to conceive the need to constitute a reality of events and interrelations that underlie our experience and that lead us to make these worlds coincide through the agreement of different perspectives. As Mead argues:

The conduct of the conscious organism is determined both by a physiological system from behind and also by a consciousness which reaches into the future. This can, of course, take place only in a present in which both the conditioning past and the emergent future are to be found; but, as these problems indicate, what is further called for is the recognition that in the present the location of the object in one system places it in the others as well. It is this which I have called the sociality of the present. If we examine the situation from the standpoint of relativity, we see that the very motion that is taking place within the system at rest carries with it a different spatiotemporal structure, which is responsible for an increase of mass within the system at rest. If we translate this into the other two situations, we see a biochemical process arising which we call life, but which so changes the conditions under which it goes on that there arises in nature its environment; and we see

living forms selecting those past conditions which lead to future maintenance of life and thus introducing values and later meanings into nature. (Mead 2002: 86)²⁹

- 37 What is peculiar to human intelligence, therefore, is the ability to reorganize in the body the elements that in novelty confront the elements previously present, and then to reconstruct the environment in the light of the new situation. In this framework, human consciousness is both the difference that emerges in the environment in relation to the organism in the process of change (which concerns the change of meaning that the environment assumes towards an organism), and the difference occurring in the organism because of the change occurring in the environment, and in social interaction (*ibid.*: 36-8).
- 38 To sum up, for both Morgan and Mead the world is there but in the cognitive regard of consciousness the world is there in *reference* to the consciousness. The emergent process is therefore strictly related to selves and their behavioural relation to social and natural environments. According to Mead, the process that constitutes the reality of a living being is “one that extends beyond the form itself and involves for its expression the world within which this form lives. The reality of the process thus belongs to the world in its relation to the living being.” (*Ibid.*: 66). And emergent events are related to habits and selective attitudes of individuals and their minds, that is to “the larger environment which the activity of the organism calls for but which transcends the present” (*ibid.*: 54). Sociality provides the aptitudes of anticipation and emergence is only given in the social act. Individual perspectives are indeed always acting perspectives, for just by acting intentionally individuals become social members, that is they enter into reality and life. Human intentionality and consciousness are thence part of a dynamic and evolutionary framework, for once the relational-organisation of lower-level elements is presupposed, coherence between emergentist conception of reality and naturalist explanation of the emergence of consciousness can be found. As Mead argues, no one has a mind that works isolated from the process of social life in which it has arisen or *emerged*, and in the course of which the model of organized social behaviour has been fundamentally impressed upon it.³⁰ It is, in other words, the idea of a functional *perspectival approach* to reality, which also Morgan seems to contend:

the same *entity* – Morgan writes – may stand in many relations and may function as just so many different terms in different and co-existent fields of relatedness. This does not mean that an entity is other than a system of terms in intrinsic relations, for herein lies a mark of its reality. It means rather that we are to take this for granted so that we may analytically distinguish some special part that it plays in some wider field of relatedness. (Morgan 1927: 178)

- 39 From an emergent evolution perspective, among the qualities of a thing there are the expressive character of the purely spatio-temporal order (figure, size, motions), of the physico-chemical, physiological, and, psychical relatedness, *qua* intrinsic – “all those characters which give to a thing, an organism, or a person, its status in the evolutionary hierarchy” (*ibid.*: 186). But there is also the extrinsic relatedness with the persons that use them and the functions they can have.

Conclusion

- 40 As I have tried to argue in this article, there are some interconnections and many similarities between Morgan’s and Mead’s works. In particular, they began their

psychological and philosophical journeys at the same area of interests and confronted the same issues related to evolutionary theory. They reached a point at the end of their journeys where they were focusing their attention on the same philosophical hypothesis, but giving thought to different solutions. According to Morgan's idea of emergent evolution, when basic physical processes achieve a certain level of complexity of an appropriate kind, genuinely novel characteristics emerge that could not be predicted from a complete knowledge of the lower-level parts and their relations. There is, moreover, a perspectival approach to reality, according to which the ontological independence of reality is epistemological dependent on the supervenient consciousness which enters into relation with it, so that the meaning relates to the way in which things enter into relation with persons. Moreover, the emergence of novelty itself should be understood as a fully natural process, so that no extra-natural force is necessary. Emergent evolution is the expression of an orderly and progressive development, ranked among the "laws of nature," though not predictable before the novelty is emerged. The laws of nature are an expression of some natural plan behind emergent evolution, a sort of "God's plan," so that once the novelty emerges, it is possible to know the hidden natural law behind it.

- 41 In *Philosophy of the Present*, Mead moves on similar paths, synthesizing his social psychology with processual philosophy and the activity which structures the reality that the organism inhabits. Emergence as an evolutionary relational process that can only be explained *a posteriori* was the notion he tried to elaborate through a synthesis with respect to the possible integration of his social psychology and the theory of relativity. His aim was, similar to Morgan, to avoid any psycho-physical dualism or reductionist naturalism as well as any teleological plan. In particular, the greater attention Mead devoted to the social aspect of the emergent event led him to link emergent events to the habits and selective attitudes of the selves. In turn, his theory of mind and self as emergent phenomena of the social processes better reconciled the discontinuity of the qualitatively distinct emerging events with the continuity of the evolutionary process. In particular, Mead reconciled the discontinuity of emerging events (as qualitatively distinct from the organizational structures from which they emerge), with the continuity of the evolutionary process and the old conditions of the past.³¹ The attention to the triadic relationship between organism, natural and social environment led Mead to interpret the psycho-physical processes from a broader perspective, according to which human evolution occurred at a social emergent level not reducible to terms of the biological characteristics of the individuals involved. However, unlike Morgan's idea of a finalistic nature, Mead proposes an anti-finalistic teleological perspective, according to which the emergent, though part of the process, is something really new and not the result of a divine plan.
- 42 Both authors, made strong and original contributions to the evolutionary epistemology of their time, work which I think, has still much to offer to the current debate on emergence and evolutionary epistemology. Mead's theory of emergence has to be considered, in my opinion, at the basis of his theory of the evolution of mind and language. Moreover, as El Hani and Pihlström (2002) have argued, Mead's anti-reductionist naturalism, together with that of Dewey, is so closely related to emergentist thought that they should be taken into account as some of the most creative representatives of emergentism.

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NOTES

1. In the preface, Lloyd Morgan writes to “be glad to learn that further observations [...] on habit and instinct will probably form part of Prof. Whitman’s work at an experimental station in connection with the Biological Department of Chicago University.” (Morgan 1896). See Richards 1977. As evolutionary biologist, Whitman was interested in particular in the study of animal behavior, and he came to formulate the idea that instinctive behavior patterns, just like organic structures, can be used in reconstructing phylogenies (Whitman 1899). Konrad Lorenz “would later call this idea the founding concept of twentieth-century ethology, the ‘Archimedean point’ on which comparative behavior studies turned” (Burkhardt 1999: 497). On Whitman’s contribution to the development of American Biology see among others Burkhardt 1999, Pauly 1994, Maienschein 1988, Davenport 1917.
2. As Pauly (1987: 67) argues, Whitman’s entrepreneurial concern to organize biology, while antedating his arrival in Chicago, fit easily into Dewey’s general framework. He was typical in arguing that “through cooperative institutions, such as the University of Chicago and the Marine Biological Laboratory, scientists would be able to communicate and coordinate their seemingly disparate individual labors, thereby creating higher intellectual syntheses than would be possible in more primitive social surroundings.” He was intellectually concerned with the principles of progressive evolution and once recruited at Chicago in 1892, he appointed among other colleagues, the physiologist Jacques Loeb.
3. For a recognition see Clayton & Davies 2006, and the introduction to this Symposia.
4. On this point see also Peterson (2016: ch. 1). Only four years before, in *The Law of Psychogenesis* (Morgan 1892a), Morgan published an associationist theory of consciousness and psychogenesis with some references to James’s functionalism. In that article, he analysed the reflex-act, regarding consciousness as developed in the *loop-line* between stimulus and response, claiming that as consciousness becomes more complex through an increasing body of representative state of consciousness, “it comes to symbolise in mental terms the occurrences both on the side of stimulus and on the side of response” (Morgan 1892a: 72). Morgan also quoted James’s *Principles of Psychology* to argue that the mechanism of control exercised by consciousness is at the basis of the ideal action, which is an “*action in the line of greatest resistance*” (James 1890, II: 549).
5. It has to be specify, however, that although Morgan refers to “biogenesis” and “genetic phases” of natural evolution in *Instinct and Experience* (Morgan 1912), the word gene is not a Morgan’s word. It was Johannsen in 1909 who coined the term “gene.” Even though Mendel was hypothesizing, already in 1866, the hereditary behavior of miniscule hidden factors or determinants underlying the stably inherited visible characteristics of an organism, which today we would call genes, he never used the word “gene.”
6. See Sober 2005: 88; Thomas 1998. Morgan first formulated the canon in 1892 (Morgan 1892c). Though Morgan aimed to avoid errors of over-interpretation of animal behaviour (i.e. anthropomorphic explanations), he also believed, differing from the successive radicalisations of his principle carried out in behaviourism, that man could interpret the psychology of animals only in his own terms. After all, as Adler noted, it was here that Morgan “had first hand knowledge, especially through investigations of his own mental processes, which included studies of their nature and of their sequential progress” (Adler 1973: 41). On Morgan’s contribution to the foundation of the modern comparative psychology see Fitzpatrick & Goodrich 2017; Arnet 2019.
7. The notion of energy was at that time crucial for Morgan’s theory of mental evolution. Though at that time British scientists and engineers – William Thomson, J. P. Joule, W. J. M. Rankine, and J. C. Maxwell – were formulating a new science of energy during the nineteenth century, it is more plausible that Morgan referred to the concept of “psychodynamics” of the German physiologist Ernst Wilhelm von Brücke who formulated in coordination with physicist Hermann

von Helmholtz the theory on the conservation of energy. Morgan introduced the notion of energy in the article on *Mental Evolution*, in which he contended that consciousness is a product of brain, meaning by the term “product” the fact that it is “called into existence” by physical processes (Morgan 1892b: 163). His hypothesis, already published in his 1891 *Animal Life and Intelligence* (Morgan 1891-1892), was that as material structure has evolved from lower forms of matter, and organic forms of energy from lower forms of energy, so mental states evolve from lower forms of infra-consciousness, that is, from “what is of the same order of existence as consciousness, but has not yet risen to the level of consciousness” (Morgan 1892b: 172).

8. It is noteworthy that the same theory was developed in the very same year by James Mark Baldwin, under the name of “organic selection” (Baldwin 1896). See on this Pertile (2019: 28).

9. Morgan’s ambiguity is even more evident in the definition of experience that he proposes. On this point see also *Instinct and Experience* (Morgan 1912). It would be interesting to consider the similarities between Morgan’s and James’ notion of experience. It is in fact most likely that Morgan’s concept of “experience” derived from James’s psychology. However, it is not the intention of this article to go into this aspect in greater depth. On James’s ontology see Bella 2019; Duvernoy 2015.

10. See Richards (1988: 381-5).

11. In other words, neural processes and states of consciousness are radically and absolutely “distinguishable but not separable” elements (Morgan 1892b: 169; 173).

12. As he wrote: “According to the monistic hypothesis, every mode of kinesis has its concomitant mode of metakinesis, and when the kinetic manifestations assume the form of the molecular processes in the human brain, the metakinetic manifestations assume the form of human consciousness.” (Morgan 1891-1892: 467). To better understand Morgan’s distinction between metakinetic and kinetic manifestations one has to take into account that Morgan’s epistemological perspective before 1894 sought to promote an empiricist attitude; however, his approach was still contaminated by an old-fashioned empiricism together with a Kantian mood (*ibid.*: 473). So that, in perceiving an object, the mental process (that is, the perception) is considered as “the metakinetic equivalent of certain kinetic changes among the brain-molecules” (*ibid.*: 473).

13. George Herbert Mead to John & Alice Chipman Dewey (1895.03.24), in Dewey 1997.

14. Loeb, Dewey and Mead were colleague for eight years at Chicago. Dewey’s correspondence indicates, furthermore, that the Loeb and Meads were personally close and Huebner recently showed that Mead was directly in dialogue with Loeb’s comparative physiology and psychology (see Huebner 2014: 259). During that time, Dewey and Loeb families became well acquainted. “They lived near each other, Anne Loeb and Alice Dewey had similar backgrounds and interests, and the Loeb and Dewey children were “pals.” The Loeb sent their oldest son Leonard to the Deweys’ laboratory school soon after it opened in 1896.” In the 1890s Dewey considered Loeb in some respects as “the single most important live model [...] of the scientific inquirer” (Pauly 1987: 68). According to Dalton (2002: 70): “Loeb provided Dewey a sophisticated understanding of the intricate interrelationships between environmental influences, biological processes of growth, and learning. Loeb’s studies suggested to Dewey that given appropriate stimulation during early development, each child could best employ the resources of his or her environment to fulfill that child’s individual potential for learning and creativity.”

15. In his letter to the Deweys he also referred to an article on the “Appearance of the Mammals” which unfortunately never appeared. This research was related to other work on emotion and the organic circuit that he was carrying out with Dewey (see Dewey 1894, 1895; Mead 1895a). In the letter Mead mentioned also the appointment of Addison W. Moore to a position as laboratory assistant of James Angell. The first result of this appointment was an experiment on “Habit and Attention,” which Angell and Moore had been conducting since March 1895, the results of which they published (in the same issue of the *Psychological Review* where Dewey published *The Reflex Arc Concept in Psychology* (1896) the first statement of functionalist psychology). In the article they

credit both Dewey and Mead for the guidance provided for the interpretation of the results presented. It would be interesting also to explore the relationships of Mead and Morgan with Baldwin, who was working on the same issues in the same years. However we cannot delve here with this topic. I intend to address this issue in a possible next contribution.

16. The question about the epistemological and methodological autonomy of experimental psychology, human and comparative, was not new. Some years before Morgan and Mead, Wundt devised the method of comparative psychology as analogous to the study of the human psyche, having indicated that the psychic life of animals was similar to that of man and therefore knowable by analogy through the observation of the phenomena of the human consciousness, which reveals itself as the immutable unit of measurement, according to which only we can measure psychic life (Wundt [1863] 1906).

17. In two articles published in the 1920s, “A Behavioristic Account of the Significant Symbol” (1922 [1964]) and “The Genesis of the Self and Social Control” (1924-1925 [1964]), and in social psychology lectures at the University of Chicago (Mead [1934] 2015), Mead repeatedly stressed the importance of using behavioural psychology to understand the psychic processes of the human being.

18. In 1913, in fact, Watson published *Psychology from the Standpoint of a Behaviorist*, in which he tried to extend the principles and methods of comparative psychology to the study of human beings and staunchly advocated the use of conditioning in research.

19. See Blitz 1992. For a historical overview on the notion of emergence in those author see Parravicini 2019.

20. As Peterson argues: “Even in *physiologically* similar organisms, *psychological* gaps manifested themselves. Physiological common descent Lloyd Morgan could continue to regard as an a priori truth. Behavior gaps between organisms, however, could not be dismissed so easily. But how could we explain these apparent gaps? In answering this question, Lloyd Morgan struck upon the idea of *emergentism* that, together with his commitment to monism, became a foundational premise of the ‘third way’.” (Peterson 2016: 73).

21. See Murphy (2002: 14).

22. On the comparison between Mead and Whitehead see in particular Bella 2016. On Whitehead and Alexander see Brioschi 2013.

23. I believe that one issue to be explored in Mead is the distinction between the social and the relational. The use he makes of the term “social” is indeed problematic, since Mead attributes to it a wide range of meanings varying from interactions between animal organisms to institutionalised forms of human society. However, it is not possible here to expand on this aspect, which I intend to address in a later work.

24. See Whitehead (1919: 22-3). See Mead (2002: 173-4). See on this point also Smith 2010.

25. “All of the past is in the present as a conditioning nature of passage, and all the future arises out of the present as the unique events that transpire.” (Mead 2002: 62).

26. See also Cahoone 2019.

27. See McNeill 2005; Rizzolatti & Sinigaglia 2006.

28. See Stone 2013.

29. Although Mead refers to the theory of relativity, it has to be noticed that he does not unquestionably accept it. First, he notes that it is not the only explanation for the relational dimension of reality, as seen above; Newton’s theory also offered a common relational structure.

30. Mead (1938: 150-1).

31. See Parravicini 2016.

ABSTRACTS

The article aims to make a contribution to the contemporary debate on emergence by focusing on Conwy Lloyd Morgan's and George Herbert Mead's theories of emergence. Both authors, in fact, first elaborated a theory that tried to synthesize the biological, the psycho-physiological and the social dimensions of emergent processes.

Since Morgan's emergentism and Mead's processual ontology were conditioned by the reflections that the two thinkers had developed over the years and traces back their roots to the early 1890s, the article will be developed as follows. A brief description of Morgan's conception of organic and mental evolution as elaborated in the 1890s and summarised in his Lowell Lectures will be outlined. Then Mead's early writings on psychophysics and comparative psychology, pointing out a similarity between Mead and Morgan's ideas on organic and mental evolution at that time will be introduced. Finally, their theories of emergence from the 1920s, pointing out more interesting similarities and dissimilarities will be examined.

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Mead and the Emergence of the Joint Intentional Self

Lawrence Cahoone

- 1 What is the core distinctiveness of *Homo sapiens*? Some of the most famous hypotheses include tool use and tool making, language, free will and moral agency, self-consciousness, mind itself, and reason or rational problem-solving. All these answers are partly true. Recent cognitive science and study of primate evolution have generated new proposals on this question. Philosophically, however, the account of human being in terms of cognitive science and primate evolution threaten, to some, a reductive naturalism. The American philosophical tradition, along with process philosophy, characteristically presented versions of non-reductive naturalism. It so happens that one, and only one, of the classical American pragmatists formulated both an account of “emergence,” as a counter to reductionism, and a notion of the human difference on which recent science has been converging. That is the Chicago philosopher of social psychology George Herbert Mead. In what follows we will explore and extend Mead’s contribution to two notions, emergence and what is now called “joint intentionality,” employing the work of William C. Wimsatt, Michael Tomasello and Antonio Damasio. We will see that Mead’s approach currently lies at the core of our evolving notion of what is most distinctively human.

I. Mead and Emergence

- 2 While, as noted, non-reductive naturalism was common among the classic American thinkers, Mead was the only one explicitly to invoke the notion of emergence. Dewey, Mead’s close friend with a similar naturalistic philosophy, might appear to be congenial, but explicitly rejected the concept in his correspondence.¹ While some have found the idea of emergence as far back as Kant’s *Critique of Judgment* (Juarrero & Rubino 2008), it is usually traced to John Stuart Mill’s *System of Logic* (1843) and his distinction of “homeopathic” (physical) from “heteropathic” (chemical) laws, which G. H. Lewes termed these “resultant” and “emergent” respectively (Lewes 1875). The term was not made famous until the 1920s by the British Emergentists, who published a

series of books during that decade – Samuel Alexander (1920), C. D. Broad (1925), and Conwy Lloyd Morgan (1926) – along with their North American fellow travelers Roy Wood Sellars (1922) and William Morton Wheeler (1928).

- 3 While less well-known among philosophers than Alexander and Broad, the ethologist Lloyd Morgan was arguably the key figure (Blitz 1992). He adopted Lewes' term in a published lecture in 1913, *Spencer's Philosophy of Science*, before Samuel Alexander's Gifford lectures of 1916-18; Alexander later cited him as the source for his use of the term (Blitz 1992: 114). Morgan argued that there are three different "modes" of relation among natural phenomena, the physico-chemical (A), the organic (B), and the cognitive (C). In each case the latter is asymmetrically dependent on the former but has "new and distinctive properties which are not merely the algebraic sum of the component things prior to synthesis. We may speak of them as constituents of the products at a higher stage of relatedness [...] the related things are progressively more complex [...] I do not say more real; but I say emphatically as real." (Morgan 1913: 28-9). The emergence of novelty is a kind of local "saltation" or nonlinear change ("jumpyness"). It is not clear from what source Mead acquired the term, but given that he had reviewed an earlier book of Lloyd Morgan's, he was most likely familiar with the latter's formulation (Mead 1894).
- 4 The background for Mead's use of emergence is his discussion of Whitehead and Bergson. Bergson had argued for the reality of process or development, calling it *durée*, implying there are existents in nature that cannot be analyzed as Δt approaches 0 arbitrarily. Whitehead accepted the same point exemplified by a simple transverse wave – the wave cannot "exist" until one cycle is complete. Mead called this "passage." But the larger point was the relativity of physical measurement to "reference frames," for Whitehead the "percipient event" or prehension of a system which dictates, or selects, a "consentient set" of reals in the environment. For Mead the percipient event becomes an organismic *act*.
- 5 In *Mind, Self, and Society*, emergence appears twice, in Mead's discussing the relation of the *I* and the *me* (sections 25-28), and then prominently in his "Summary and Conclusion" (section 42). Mead understands emergence, like the British Emergentists, as an alternative to mechanism (or reductionism) and vitalism, the later associated with Bergson. Mead explicitly claims that two related but distinct principles constitute the basis of his approach to nature: relativity and emergence. What is emergent is "Anything that as a whole is more than the mere form of its parts has a nature that belongs to it that is not to be found in the elements out of which it is made" (Mead 1934: 329). He uses the famous chemical example of the properties of water being something "over and above" the oxygen and hydrogen atoms which make it up: "Emergence involves a reorganization, but the reorganization brings in something what was not there before. The first time oxygen and hydrogen come together, water appears [...]. emergence is a concept which recent philosophy has made much of..." (*ibid.*: 198). In *Mind, Self, and Society* he develops emergence primarily in relation to the human self: the self is "emergent" (*ibid.*: 214).
- 6 One of Mead's clearest statements is from *Philosophy of the Present*: "The thread of the physical scientist is reduction and that of the biologist is production. The biologist cannot investigate until he has got a life process [...] He must, however, have physical means for this process and must therefore be a physicist as well [...] If he reduces the reality of the life process to the means [...] he becomes a mechanist. If the life process

appears to him a reality that has emerged out of the physical world [...] he is a teleologist. These two attitudes [...] conflict [...] only if on the one hand he [...] refuses to recognize that the process that he is investigating is a reality that has arisen, or if, on the other hand, he states the physical and chemical things that enter into the process solely in terms of the process [...].” (Mead 1932: 63-4). For Mead there is only a “conflict” between accounts of the telic, complex, self-organizing behavior of living organisms and the mechanical processes of physics (and perhaps chemistry), if one side refuses to recognize the reality and necessity of the relations and processes employed by the other. That is, if the reductionist claims the “emergent” properties are not “realities,” or if the “teleologist” claims the physico-chemical phenomena are mere “means” dictated by a higher end.

- 7 Mead makes clear that emergence is intimately connected to his concept of “relativity.” He writes, “When a form develops a capacity [...] to deal with parts of the environment [...] it has to this degree created a new environment for itself. The ox that has a digestive organ capable of treating grass as a food adds a new food, and in adding this it adds a new object [...] The organism in a real sense is determinative of its environment [...].” (Mead 1934: 215). The acorn is food, objectively, but in relation to the deer or turkey, not the wolf. Consciousness itself arises from the interaction of a biological form and an environment. In his 1927 lecture, “The Objective Reality of Perspectives,” the notion of relativity is connected to “perspectivism” (Oliver 1938). Mead admires Whitehead for the notion of nature as “an organization of perspectives” (Mead 1932: 173). Each perspective in act “stratifies” nature, “These stratifications are not only there in nature but there are the only forms of nature that are there [...]. But they are there only in their relationship to percipient events or organisms.” (*Ibid.*: 179). This is part of an even broader point. Mead’s student and editor Morris took Mead, as early as 1932, to be adopting an “*objective relativism* which inherently included the notion of emergence”(Morris 1932: 252-3; my italics). Objective relativism had been named by Arthur Murphy, himself temporarily a colleague of Mead’s at Chicago, for a doctrine found in Dewey and Whitehead (Murphy 1927). Mead himself ascribed objective relativism to Whitehead (Mead 1938: 524). Morris later argued that objective relativism is the proper cosmology for pragmatism (Morris 1970: 135-6).
- 8 Mead sometimes used “sociality” for relativity, even applying it to inorganic systems and their relations (Thomas 2016). “Sociality is the capacity of being several things at once,” he wrote (Mead 1932: 75). Whenever something functions in, and hence has different properties in, more than one system or context, it is social. This even applies to the increase of the mass of a moving object under special relativity (*ibid.*: 77). Morris later wrote, “The new or novel properties which accrue to something when it enters a new perspective (or system) Mead calls ‘emergent’ properties” (Morris 1970: 129).
- 9 Emergence is thus the temporal, developmental cognate of relativity or sociality, for “the emergence of novelty requires that objects be at once both in the old system and that which arises in the new” (Mead 1932: 186). For Mead objective relativity holds in general, but some temporal processes yield three different levels of analysis: reduction to components, which were present in the past; explanation in terms of purposes, hence the future; and between the two, the present in which emergence is taking place. Mead connected reductionism with the past – a summary of past conditions on the present – and vitalism or “teleology” with the future, but “emergence” with the present, being a combination of the two. The water molecule functions as such among

other water molecules, with distinctive properties, while it is simultaneously a collection of hydrogen and oxygen atoms, and functions as such at that level. Hence, “What for Aristotle is formal and final cause is coming back as an emergent” (Mead 1938: 641).

- 10 After the 1920s emergence largely disappeared from philosophical and scientific conversation. Following an interregnum of several decades, it returned, in part due to scientific work on complexity, nonlinear dynamics, and critical point phenomena. The current literature on reduction and emergence can hardly be explored at less than book length (see Bedau & Humphrey 2008). The most interesting and useful analysis of emergence comes from the American philosopher of biology, William Wimsatt, whose work was influenced by hierarchy theorists like Herbert Simon (1962, 1969) and Stanley Salthe (1985), the evolutionary epistemologist Donald Campbell (1974, 1988), and the neuroscientist Roger Sperry (1976). Wimsatt argues that emergence and reduction are not in conflict. A natural system may have some properties which are capable of a full reductive explanation, and others that are not. Reducibility and emergence are matters of degree.
- 11 This is rooted in his analysis of reduction. For Wimsatt, “A reductive explanation of a behavior or property of a system is one that shows it to be mechanistically explicable in terms of the properties of and interactions among the parts of the system” (Wimsatt 2007: 275). The point of reduction is after all to simplify, to derive a system’s properties from less complex systems and their interaction rules. But reduction is a complex strategy. In actual scientific practice, reduction explains: a) only some properties or performances of a whole system; b) on the basis of a perspectival, hence selective, decomposition of the system, i.e. a particular way of cutting it into parts; c) by using an idealized model of the parts and/or their interactions, resting on or employing significant approximations. We may succeed in explaining one property of a system out of a several properties we would like to explain, once we decompose the system in a particular way and presuppose a model of the interactions among parts (e.g. thinking of them as point-masses or spheres or oscillators or pumps). Inevitably, when we move from nonliving systems to organisms, there are multiple possible decompositions of each system; for example, decomposition into organ systems, cell types, electrical pathways, circulatory systems, chemical concentrations, etc. (Wimsatt 1974).
- 12 According to Wimsatt, the endpoint of a complete reduction, which would justify the claim that a system property or performance is “nothing but” its part properties, is achieved to the extent that the system properties or performances are “aggregations” of part properties or performances. He specifies four conditions of aggregativity: *intersubstitutability* or invariance of the system property under rearrangements of the parts, so serial or aperiodic ordering does not play a role; *qualitative similarity* under scaling, where addition or subtraction of parts leaves the property only quantitatively changed, bigger or smaller but with the same properties; *re-aggregativity*, or invariance of the system property under decomposition and re-composition, so it will be the same if we take it apart and rebuild it; and *linearity*, where change in output is proportional to change in input, with no feedback, either cooperative amplification or inhibitory damping (Wimsatt 2000). Only when *all* these hold can we say the system property is “nothing but” the aggregation of decomposed parts and their interaction rules, in effect, a linear sum or product of part-properties that have minimal interaction and can be treated as isolable.

- 13 But this is rare. Mass is one of the few properties of physical systems which is just the aggregation of the same property of the components (e.g. my mass equals the sum of the mass of all my chemical substances which equals the sum of the mass of all my atoms, etc). Volume is not, for in some chemical reactions volume changes. Wimsatt makes the suggestion that aggregativity tracks the conservation laws of physics, that the properties subject to conservation laws – mass, energy, charge, spin – are those whose values are indeed invariant in all interactions. This shows how fundamental, and yet how narrow, the band of aggregative properties is. That is: *reduction explains something about almost everything, but everything about almost nothing*. When and where reduction works, it is tremendously simplifying, and generates the most context-independent entification. So we understandably keep trying to decompose systems and idealize their components' interactions so as to yield workable reductions, “decomposing, cutting, pasting, and adjusting [...]” (Wimsatt 2007: 286-7). There is nothing wrong with this, as long as we recognize its merely partial success most of the time.
- 14 Emergence can then simply be defined as *non-aggregativity*. It occurs when a reductive explanation, which explains a process, structure, or system at level N as a reconstruction of a causal sequence of entities, processes, and/or forces of level N-1, without employing reference to processes, structures, and entities at the N or N+1 levels, is *inadequate*. Then we require recourse to “systemic” explanations, where the explanans is at the same level as the explanandum (system N) – i.e. explaining the dent in the fender by the impact of the other car – or “functional” explanations of N's properties by reference to encompassing or higher level N+1 systems or processes. The desideratum is to what extent the structure/processes of system N are caused by more or less isolable, environmentally-uninfluenced properties of N's parts and their two-body interactions. If so, we have a more complete reduction. If not, if the contribution of the part-properties and their simple interactions to the whole is itself influenced by the whole, the whole is to that degree non-aggregative.
- 15 Wimsatt does not hesitate to draw ontological conclusions. Nature exhibits *levels*. A level is a “hierarchical division of stuff (paradigmatically but not necessarily material stuff) organized by part-whole relations, in which wholes at one level function as parts at the next (and all higher) levels” (Wimsatt 2007: 201). It is a “local maxima of regularity and predictability in the phase space of different modes or organization of matter” (*ibid.*: 249). The range of entities with which a system interacts is a non-arbitrary and informative fact about that entity. Scale or size is “a robust indicator for many [...] kinds of causal interactions.” Entities are generally at levels; levels are “where the entities are.”
- 16 Multiple-realizability of higher-level properties, hence the dynamic autonomy of those higher levels, is “a general fact of nature” (*ibid.*: 217). While the macro-properties of a system must be sensitive to certain kinds of micro-changes, “it is crucial that most differences [at the micro-level] do not have significant [macro-level] effects most of the time” (*ibid.*: 218). What happens to a system does not necessarily happen to its parts, nor vice versa. My cells will die shortly after I do, but not my molecules, because molecules are not alive – nothing less than a cell lives. The atoms of the water in the pond do not freeze when the pond water freezes, since freezing is a phase change of the relations among molecules. This has a simple but powerful consequence: there *cannot*

be purely micro-level explanations for most stable macro-level properties. Wimsatt summarizes,

levels of organization are a deep, non-arbitrary, and extremely important feature of the ontological architecture of our natural world, and almost certainly of any world that could produce, and be inhabited or understood by, intelligent beings [...] (Ibid.: 203-4; his emphasis)

- 17 Mead's conception of emergence was far less complex than this analysis. Nevertheless, not only was he unique among the Americans in adopting emergence, his conception was prophetic in some ways. One can see in Mead a recognition that is continuous with Wimsatt's work: "emergent evolution" must *combine* the mechanical or reductive, the "lower" stratum on which the system in question asymmetrically depends, and the functional, for Mead "teleological," stratum. Emergence does not mean an abandonment of the mechanical. A complex system that is "more than the sum of its parts," hence only partly but not fully explained by reduction – i.e. aggregation – is one that functions at multiple levels of scale where there are distinct properties at these levels.

II. Mead and the Joint Intentional Self

- 18 Certainly Mead's most famous innovation was the concept of "significant gesture" from *Mind, Self, and Society*. Gestures are the communicative behaviors that many animals produce to enhance the process of "mutual adjustment." One organism responds to another's gestural act by a movement that changes the situation communicatively: Fido, rather than biting Rover, barks or growls; rather than being attacked, Rover shows a submissive posture. The gesture is the initial phase of an act (i.e. growling before biting) which functions to call out a response on the part of another organism (Mead 1934: 44). But, Mead argued, humans alone engage in *significant* gesture, gestures that function as signs. For Mead a significant gesture *means* or *stands for* the later phase of the act. This grants the gesture objective status for others and the gesturer. Mead insists that only humans can treat natural events as signs. Imagine I walk my dog through the woods, and we come upon a bear's paw print. The dog smells it, feels fear, and buries its nose in the print. In effect he is afraid of the footprint. I, seeing the print, feel fear too. But I respond by ignoring the print and scanning the horizon, because for me the print functions as a sign of something other than itself.
- 19 Mead argues that what allows humans to treat a gesture as sign is that the gesturer responds to its own gesture from the perspective of the recipient. She or he does so "implicitly" – we might say, "out of gear" – rather than explicitly. I can only send you a sign if I implicitly respond to the sign just as I expect you to respond explicitly, which I can only do that if I know what it is to experience the sign from your point of view. In taking the other's perspective the gesturer must regard herself *as an object* from the viewpoint, or attitude, of the other. Mead writes, "Gestures become significant symbols when they implicitly arouse in an individual making them the same response which they explicitly arouse, or are supposed to arouse, in other individuals, the individuals to whom they are addressed; and in all conversations of gestures within the social process [...] the individual's consciousness of the content and flow of meaning involved depends upon his thus taking the attitude of the other toward his own gestures" (*ibid.*: 47). Taking the perspective of others then allows humans to play, and engage in games,

in which each player must be capable of seeing events from the viewpoint of other players and their roles. You cannot be a shortstop unless you can regard a base hit from the perspectives of nine other players at more or less the same instant. In fact, for Mead thinking itself is as an inner conversation among the perspectives internalized from social interaction. Human mind just is the activities of significant gesture.

- 20 The result is the “self,” which for Mead emerges from a process of interaction between the *me*, the sum of the individual’s social roles, and the *I*, the organism’s unique spontaneous reaction to the *me*. For Mead, “The others and the self arise in the social act together” (Mead 1932: 178). Mead eventually derives the notions of rationality and morality from this intrinsic sociality of the human individual, by which what is “objectively” valid in a rational discussion, and what moral judgments or rules stand as “objectively” valid, are judgments from the perspective of the generalized other.
- 21 The major limitation on Mead’s analysis by the standards of today’s comparative psychology is that he held a restrictive notion of “mind.” Mead was a naturalist and familiar with the ethology of the time; he discussed nonhuman animals, particularly the eusocial insects, to distinguish their physiologically fixed social roles from the human case (Nungesser 2016). However, like many other philosophers of his era he restricted mind to humanity. For Mead the following concepts are linked: significant gesture, signs, mind, intelligence, self, self-consciousness, meanings, language. No creature has one of these without the others. Hence for Mead there is no nonhuman mind.
- 22 But in other respects, Mead’s analysis is very contemporary. An important theme in recent comparative psychology, cognitive science, and primatology is that humans are uniquely social or “prosocial,” far more so than even our great ape relatives. (Franz De Waal 1996; Peter Hobson 2004; Thomas Suddendorf 2013; Michael Tomasello 2014, 2016; Raimo Tuomela 2010; Edward O. Wilson 2013). The eusocial insects are highly social, in a sense more so than ourselves, but they are almost clones, born of a common queen. Human beings are the only animal on Earth that exists in complex societies but are not kin.
- 23 “Mind-reading” is the name given to the ability of one animal to recognize the mental intentions of another (Suddendorf 2013). The comparative psychologist Michael Tomasello has argued that the human capacity for mind-reading is far greater than that of other primates. So great, in fact, that he roots it in the phenomenon of *joint intentionality*, when multiple agents actually share a mental state (Tomasello 2014). Say a human caregiver introduces an initially distressing object –a wind-up monkey toy – to a year-old infant. Initially the child looks at the toy in fear, then looks at the caretaker. She smiles, amusedly handling the toy, exhibiting her attitude of enjoyment rather than fear. The child then smiles and handles the toy itself. Tomasello suggests it is not merely that the child is imitating the behavior of the mother; the object has become acceptable by virtue of the child’s taking up the caregiver’s attitude toward the object, which of course requires first that the child “read” the attitude of the caretaker. Peter Hobson calls this early identification and transference of attitudes the “Copernican Revolution” of human mind (Hobson 2004: 73).
- 24 The human child is hard-wired to be motivated to engage in such mind-reading and in joint collaborative activities. While nonhuman primates are capable of a limited form of attributing perception or knowledge and goals to another, the full mind-reading of shared intentionality is uniquely human. Incorporating and retaining the perspectives

of others complexifies the self and the perspectives it can take. Adopting others' attitudes sets up different optional perspectives for the individual mind. As Mary Warnock suggested that "the possibility of taking up different perspectives is essential [...] to having a thought about something" (Warnock 1978: 171). Thought is a conversation among socially acquired and imaginatively recombined perspectives. This was exactly Mead's claim. There seems to be a kind of social relating, with both cognitive and affective features, that forms a key difference between ourselves and our closest living relatives. It appears the human mind does not merely involve or require communication in the coordination of activity, but is *itself communicative*. My mind represents what others say and think, I incorporate and think from their perspectives, take on their roles, converse with them internally, exchange signs with them that arouse the same response in myself, a self which emerges from out of my relations to them. The others are *in my head*, like it or not.

- 25 This convergence of Mead and Tomasello has already been noted by Frithjoff Nungesser (Nungesser 2016). In what follows we will try to extend the notion of joint intentionality and relate it to other features of human evolution. Tomasello hypothesized two epochal achievements after the early evolution of the genus *Homo* that eventually led to us (Tomasello 2014, 2016). First there is joint intentionality, which generates a "second-person intentionality" between infant and caregiver and between partners in "obligate collaborative foraging." He naturally presumes language arises on the basis of joint intentionality. Then later "collective intentionality," the ability to take the perspective of the tribe as a whole, arises with its "objective" depiction of reality and social goals through cultural practices and artifacts. We will suggest some amendments to his analysis.

II.1. Joint Intentionality

- 26 Imagine a baseball diamond with X at home plate, I at first base, W (for We) at second base, and Y (for You) at third base. X is some object, for I, Y (you), and perhaps W(e) (Figure One). But we may add a step. Halfway from X to I, there is A; halfway from X to Y is B. A and B are two statuses or functions of X, from the viewpoint of I and Y, respectively. X serves as A for I and B for You, while remaining X. For the ability to recognize an object from another's perspective is tantamount to recognizing that a single object can have two or more functions or statuses, while remaining the same object – in Mead's terms, the ability "to be several things at once." The toy was fearful and is now enjoyable; the stick serves as a bird in the hand of one child at play, a spear in the hand of another. The same stone can serve as a hammer for you or a cutting tool for me. In joint intentionality we acquire the ability to cognize the fact that a thing can have multiple functions in different relations while remaining itself. X can function as A and/or B, serially or simultaneously, in different relations, and still be X.

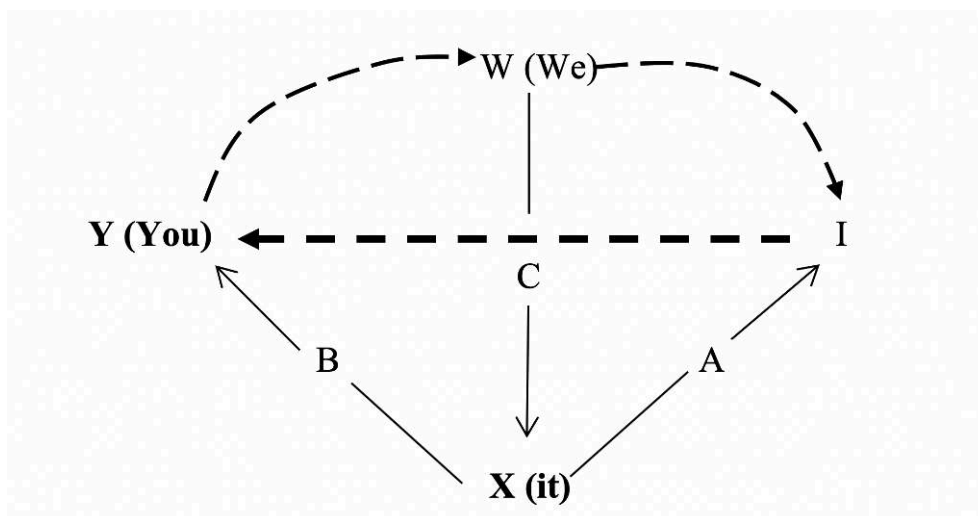


Figure 1

- 27 This is equivalent to saying that X *stands for* or *means* A to I and B to you. That is the sign relation. A sign is a human production which objectively (publicly) stands for something to some set of organisms capable of taking the perspective of a conspecific. If I and you can recognize that X can function differently for different conspecifics, can change what it stands for or functions to do – when I adopt your perspective or you mine – then I and you have acquired the concept of *meaning*. X can have two different meanings, or functions, while remaining X. For Mead, I’s ability to alternate between its own relation to X and You’s relation to X is what allows X to be a significant gesture or sign, with potential meanings A and B.
- 28 Tomasello points out that the sophisticated problem-solving of many nonhuman animals, particularly primates, shows they do understand cause-effect relations. But what they do not understand is *causal intermediaries*, causal processes with multiple steps. some of which can be replaced by others (Tomasello 2014). The great apes, who are capable of remarkable feats of problem solving, do not understand that the relation of antecedent and consequent, or stimulus and response, may entail an intermediate causative force or agent intention, hence the same result might be preceded by a variety of antecedents.
- 29 Imagine for the moment that in Figure One, on the path from X to I, that I is not a person, but an *event*, in this case, a goal we want to achieve, and likewise Y. Think of X as fulfilling or functioning in role A, hence leading to I, and as B leading to Y. Recognizing that A, a function of X, is distinct from X makes it possible to substitute other acts or steps or things for X. The hole needs to be dug. Yesterday we used a flat rock, but if the rock is not here today, we might use a spear. Production processes, like making a hand axe, require a necessary ordering of steps resulting in an end. Different but functionally equivalent causal intermediaries can be substituted for X on the way to I *if they do* A. Also, while X can get to I by way of A, a functional equivalent of A (D, E, etc.) will do as well. The same is true of social members who switch roles in collaborative endeavors – the last time you drove the prey, I speared it; this time I will drive the prey, you kill it. *Causal, temporal processes can now be understood as structure of relations which have a logic into which the entities fit.* This also can be applied to the

construction of a whole from parts. The patch of fox fur can contribute to a dwelling or to a piece of clothing or perhaps a bag for carrying.

- 30 Suddendorf points out the importance of cognitive “nesting” as a uniquely human ability (Suddendorf 2013). I can believe “A lied to B.” But also, I can recognize “C believes A lied to B,” or even, “D knows that C believes A lied to B.” That is nesting or embedding. But this can be applied to all manner of scenarios. Imagine a scenario for future action in which X, now a deer, plays a role as the object of a possible action, “Today I will hunt X.” Then imagine a modification of the situation: “You could help (I hunt X).” Then new information comes along, “D says a hog would be better than [You helping (I hunt X)].” Hence on the basis of the newest (leftmost) “nesting,” I decide to switch the ultimate goal: replace X with H, a wild hog.
- 31 Causal intermediaries, whole-part substitution, and cognitive nesting are an implicit use of *logic*. I do not mean the literate study of logic in Greek, Indian, and Chinese civilization in the first millennium BCE, but the recognition of relations, processes, and possibilities which cohere and those which contradict. Collaboration in hunting or gathering, and in the manufacture of tools, or making, would have to exhibit such logic. That X must precede Y, and Y precede Z, hence X does in fact precede Z; that X must be the first step in a process, followed by Y, and then Z, so X is the basis of Z; that one layer of clothing or fur or one type of cut into a stone for the process of making a hand axe, is the basis for step Y, and then Z; that a whole event or entity can have substitute parts while remaining the same kind of thing, or retaining the same social function. That is to say: the switching of perspectives, which Mead diagnosed and current joint intentionality presupposes, allows the distinction between what X is for you and what it is for me, which X remains identifiable and re-identifiable as X. That is in effect to distinguish X from X’s various possible meanings or functions. This allows the handling of possibilities, which are essential to human mind. For Mead “The [human] mind holds on to [...] different possibilities of response [...] and it is [this] ability to hold them there that constitutes his mind” (Mead 1934: 135).
- 32 This is connected to another important human difference, *time travelling*, or mentally moving out of the present (Suddendorf 2013). There are many creatures who time travel to some extent. Nonhumans clearly have memory, and learn. The most obvious form of memory is procedural, which is the remembering how to do something. There is also what called “semantic” memory, which means remembering a fact or state of affairs. That an animal can find an acorn, or some other treat, that it once hid or saw hidden, and find it again, is semantic memory. All this can be produced by association. Another animal or place that produced danger or fear at an earlier time, and now produces fear again, is an association of fear with the animal or place. But to be able to recall a series of events constituting an episode, a narrative, is a different matter. Humans have far more episodic memory than our closest nonhuman relatives.
- 33 Time travel is clearly related to some of the abilities described above. It would be difficult to imagine episodic memory without a complex analysis of causal relations. Collaborating humans must be able to plan, hence project possible cooperative acts, but they cannot improve on their performance unless they can discuss long sequences of past actions, particularly after a collaborative project has failed. The human ability both to remember a detailed set of episodes from the past, and to anticipate possibilities in the future, hence to plan, seems unique. And both seem crucial to the possession of a *self*.

- 34 There is much disagreement about whether nonhumans – particularly the most cognitively gifted nonhumans, like great apes, cetaceans, elephants, canines, and corvids – have “selves.” Animals are clearly biological agents. By any reasonable definition of mind and consciousness, many have both, as well as characteristic behaviors and dispositions which one could term “personality.” But self is another matter.”² It is quite true that some nonhumans have passed the famous “mark” or mirror self-recognition test. In these tests, experimenters place a mark, sometimes of a tasty material, on the forehead of an animal, then allow it to see its image in a mirror, to see if it will touch its *own* forehead and maybe eat the treat. Elephants, dolphins, and magpies have occasionally passed the test, but only the great apes consistently pass. However even then more than half of them fail (Suddendorf 2013 : 54). I suggest that even success on the mark test does not by itself indicate possession of a self. Certainly it indicates a recognition of one’s own body, an important cognitive achievement, but one more akin to causal reasoning, as in recognizing that the movements of the mirror image are causally related to one’s own proprioceptions.
- 35 Here we can turn to the distinction made by neuroscientist Antonio Damasio between “extended” or “autobiographical self-consciousness” and “core consciousness” (Damasio 2000). Core consciousness is the basic form of real-time, waking present awareness common to humans and many other animals. It functions to track somatic state in relation to environmental changes, enabling learning and complex behavior control. But extended or autobiographical consciousness, found in healthy humans, reads the results of core consciousness *as owned by an historical agent or self*, a narration of personal identity. This requires episodic memory – the memory of sequences of past events, stories, if you will – and imagination of future possibilities. It is this which humans usually call consciousness, in Damasio’s terms, the “self-in-the-act-of-knowing.” It can be turned off by illness, for example in some kinds of epileptic seizures, while core consciousness is retained. Mead would add that this comes from some sophisticated application of what is gained from joint intentionality, combined with episodic memory, for it is bound up with *viewing the self as an other while remaining the self*. The self of human self-consciousness is socially acquired. My point is that Damasio’s notion can be combined with Mead’s. Self-consciousness requires both the ability to take the perspective of the other (and the we) on the self, and the time travelling ability to narrate a personal history. Damasio’s analysis presses Mead’s case further.
- 36 Now we can pass to two other great achievements that are unique to humans, but very likely rooted in joint intentionality.

II.2. Language

- 37 The most important kinds of signs in human evolution must be *language*, both manual and verbal. Human language is unique. No other living species has anything comparable. It is true that in recent decades humans have taught a remarkable amount of American sign language or an equivalent to certain great apes (Suddendorf 2013: 85). This has to mean that Mead was wrong to imagine that no nonhumans can acquire significant gesture of any kind. However, we must note that none of this happens in the wild, only through intensive human training. That is, such linguistic events only happen in human society.

- 38 The question of whether language is uniquely human is actually the question of which features of language are uniquely human. The current answer must still be “quite a few.” But what matters for us in the present context is, what mental abilities does the uniquely human version of language use signify? Philosophically speaking, human language provides a means by which *meanings can be treated and manipulated as objects*. Meanings may be recognized in joint intentionality, but language provides a device for handling them. Meaning manipulation allows us to do something remarkable, to objectify and communicate about what is non-actual, that is, are in the past or the future. Language allows us to communicate about the actual states and things *through*, or in the context of, the non-actual or non-present possibilities. To say “a baseball” is to refer to any one of a huge number of objects that have existed in present, past and future. All human words other than proper nouns and all linguistic statements have meaning which involves universals, generalities, hence cognized possibilities. Meanings can be of what is not actual, of what is past or what is possible in the future. Language allows us, as Mead pointed out, to “hold” such meanings in the mind, as well as exchange them. Cognitive nesting, for example, would seem impossible without the unique *recursivity* of human language, the ability to generate an indefinitely large number of utterances by adding and recombining phrases. Reasoning about these nested possibilities of collaboration requires sophisticated verbal language, a set of signs that can be used to hold and “handle” these contextualized possibilities. Mead explains that language provides a “fifth dimension” for action, a “field of indication and reference” (Mead 1938: 135-6). Meanings emerge in human linguistic interaction.
- 39 There also seems to be an affective side to language competence. To see it, we can turn from the distant to the recent past for a remarkable example: the famous passage from Helen Keller’s autobiography when the blind, deaf and speechless nearly-seven-year old suddenly acquires language. The passage is long, but incomparable.

The morning after my teacher came she led me into her room and gave me a doll. [...]. Miss Sullivan slowly spelled into my hand the word “d-o-l-l.” I was at once interested in this finger play and tried to imitate it [...] I did not know that I was spelling a word [...] I was simply making my fingers go in monkey-like imitation [...]. One day, while I was playing with my new doll, Miss Sullivan put my big rag doll into my lap also, spelled “d-o-l-l” and tried to make me understand that “d-o-l-l” applied to both. Earlier in the day we had had a tussle over the words “m-u-g” and “w-a-t-e-r.” Miss Sullivan had tried to impress it upon me that “m-u-g” is mug and that “w-a-t-e-r” is water [...]. I became impatient at her repeated attempts and, seizing the new doll, I dashed it upon the floor [...] Neither sorrow nor regret followed my passionate outburst [...] In the still, dark world in which I lived there was no strong sentiment or tenderness [...] We walked down the path to the well-house [...] Some one was drawing water and my teacher placed my hand under the spout. As the cool stream gushed over one hand she spelled into the other the word water, first slowly, then rapidly. I stood still, my whole attention fixed upon the motions of her fingers. Suddenly I felt a misty consciousness as of something forgotten [...] and somehow the mystery of language was revealed to me. I knew then that “w-a-t-e-r” meant the wonderful cool something that was flowing over my hand. That living word awakened my soul, gave it light, hope, joy, set it free! [...] Everything had a name, and each name gave birth to a new thought. As we returned to the house every object which I touched seemed to quiver with life. That was because I saw everything with the strange, new sight that had come to me. On entering the door I remembered the doll I had broken. I felt my way to the hearth and picked up the pieces. I tried vainly to put them together. Then my eyes filled

with tears; for I realized what I had done, and for the first time I felt repentance and sorrow. (Keller 1996, chapter four)

- 40 Her phrases are telling. *Everything had a name*, which means has a name *for us*, for you as well as me. It means you and I can think the same thing and recognize that fact. That is joint intentionality enhanced by the mechanism of language. *And each name gave birth to a new thought*, which means the something outside me, by having a sign to refer to it and distinguish it, is also at the same time a thought in my mind, something I internally “handle.” The object is mine in a new way. *Every object which I touched seemed to quiver with life*. Whatever that packed phrase can tell us, it must at least mean that the perceptual experience of the thing was now supplemented with a new emotional significance, perhaps because potentially shared by self *and* other. The word drapes the object with the emotional charge of joint intentionality. *For the first time I felt repentance and sorrow*. Only now is the doll a gift from another that mattered to you *and* I. But this brings sorrow too: eating of the fruit of the tree of language gives us meanings, but not only happy meanings. Feelings, good and bad, are now more intense. The acquisition of the linguistic ability to manipulate possibilities that are shared with another, to know one and the other are thinking the same thing, has altered everything. Whatever happens to the self is now a proto-social experience; language embeds a social tool in an already, or developing, joint intentional human self-consciousness. But there is final step in human evolution to which Mead can contribute.

II.3. Culture

- 41 It currently appears that *culture*, behavioral modernity, arrived for *Homo sapiens*, 80-50.000 years ago, during what some call the “Great Leap Forward” (Diamond 1999).³ This includes some kinds of art, decoration, burial rituals, and more complex tools. It was only after this that *Homo sapiens* outcompeted and outlasted all other hominins, perhaps involving a greater ability to adapt to novel climate change in virtually any environment. At any rate, the combination of both complex verbal language, enabling the handling of meanings, and their exemplification in cultural products, based on and refinements of joint intentionality, was fully in place at that time.
- 42 Some claim culture is not uniquely human. This is because some scientists define culture as learning passed across generations by a local population of a species, which is rare enough. Populations of an animal species are not especially different in their behavior; individual learning is not passed on genetically. There a few nonhuman populations that seem to have done this. One of the most famous cases is a troop of macaques, a kind of snow monkey, in Koshima, Japan who alone among their species wash their sweet potatoes in saltwater before eating them, and teach their offspring this behavior. Some scientists call this “culture.”
- 43 But we must distinguish culture from society. A society is a group of conspecifics who live together and are interdependent so that belonging to the society makes a difference to individual behavior. That is to say, the emergent social processes downwardly influence the traits of the individuals involved. In intelligent species society may entail rules of behavioral propriety and intelligibility. But culture is not society, it is something society *produces* and *possesses*. If society and culture were identical, no society could exhibit cultural change – it would no longer be the same society – and we would have to deny the existence of “multicultural” societies, societies

with more than one culture. When the macaques acquire potato washing their society has indeed changed, and they have passed on social learning across generations.

- 44 Culture, I suggest, is different. It is *making things that mean*, or more elaborately: a) constructing practices, artifacts, and narratives; b) that are valued intrinsically, as ends in themselves; c) which realize shared meanings; d) in terms of which individual life, society, and the world are valued and understood (Cahoone 2005). Culture emerges only in human societies. The beaver dam and termite mound are social products. So is the hominin hand-axe and bow. But the cave paintings of Lascaux, or the ornamentation of bodies and clothing, ritual dances, and narratives told around the campfire, are different additions to reality: they are valued in so far as they *mean* something that contributes to members' orientation in the world.
- 45 In terms of Figure One, culture is clearly a social product, a product of the We. But it presents a new interpretive environment for the understanding and valuation of the world (or X), the I and You, and the We itself. Humans came to root their social order in a dimension of intrinsically valued, made icons, myths, and rituals. This doubtless added to the already existing social bond. As Tomasello argues, the cultural era develops what sociologist Emile Durkheim called "group mind." For Tomasello culture provides a second step in human cognitive and social evolution, beyond the "second personal" collaboration and morality of earlier hominins. It provides an "objective morality" normative for the social group. He and others regard this as above all a reinforcement of human "groupishness" (Haidt 2013).
- 46 But while culture does intensify the social bond, that is a result of the different *kind* of bond it is. For the first time on Earth, things now mean something more than the direction of game, the likelihood of water-containing roots, the coming of storms. They now mean what the world *is* and how we fit into it. For the first time some "thing" – not a human – is intrinsically valuable because of its meaning, rather than being edible, desirable or pleasurable. Intrinsically valuable things have now been *created* in terms of them much of the world is understood as meaningful for human life. Now a totemic animal embodies the spirit of me and my ancestors. The stars depict human scenes. My life and death take place in a normative circle of the four winds. My fertility is now connected to the order of the world, the circulation of manna and power and value, by a ritual or totem explained in a narrative.
- 47 Mead devoted little time to the analysis of culture, but his semiotic understanding of the human mind lays the basis for the recognition that the dimension of cultural symbol provides the representation of the background context of reality and human goals. Only with culture do the uniquely social and linguistic animals we call human organize their lives according to a cognitive and affective understanding of the nonhuman world, and so the place of their society in it. As Ernest Gellner argued regarding hunter-gatherer societies, "We cooperate because we think alike and we think alike thanks to ritual," or more broadly, communal symbolic practices (Gellner 1988: 37).

Conclusion

- 48 What then did Mead contribute to the current understanding of the emergence of the joint intentional self?

- 49 First, the notion that language, and other widely recognized human activities, like morality, tool-making, and reason, are themselves dependent on the more fundamental *social nature of the human mind and self*, the ability to take the perspective of the other and thereby switch perspectives. Thought is internal dialogue and the self is constituted by such dialogue. Language and culture are rooted in this capacity. The recent notion of shared or joint intentionality is an extension of this concept. The human individual's experience is social and cultural.
- 50 Second, the emergence of these uniquely human processes, like all emergence, is rooted in the ability of something to be "several things at once," meaning, to function in alternate contexts or processes. This is a feature of many systems in nature, which can function in different orders or scales. The emergence of novel modes of functioning in nature are normally due to environmental changes. But once the human self has arisen, something exists which is uniquely capable of switching perspectives *itself*, of taking on other roles, and communicating among them. At the same time, Mead recognized that emergence, and with it the reality of formal and final causation, does not mean an opposition to mechanism or reduction. The complex functioning system, which has "emerged," remains simultaneously a collection of less complex components obeying mechanical processes, and a complex component of higher level, often telic, processes. The mistake is to believe one strategy of explanation excludes the others.
- 51 Mead's thought is alive and well, and at the center of contemporary attempts to bring together the natural and social sciences in understanding the human difference.

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NOTES

1. While in *Experience and Nature* (1958, Ch. 7) Dewey distinguished evolutionary "levels" – inanimate, animate, psycho-physical (animal), and mental (human), he specifically denied emergence in his letters to Bentley in 1945 (Dewey & Bentley 1964). He disliked the term's "irrelevant doctrinal associations," writing that "'Emergent Evolution' [...] seems to be a doctrine and a rather absurd one" (*ibid.*: 403). He criticized the notion of "levels of organization," saying, "I came near falling for it [...]." He includes some ridicule: emergence as a "miracle" to jump up such levels, like a "series of elevators." "John and Susan [?] rise from the ocean [...] They had [...] to submerge, before they could emerge." His explanation of his own resistance: "A prejudice I couldn't overcome, I guess, against any feudalism with its fixed hierarchy of lowers and higher." (*ibid.*: 426-7).

2. Unfortunately this issue, whether nonhumans possess "selves," has become moralized and even politicized. Unless we are to hold nonhumans responsible to human norms, we cannot say they possess all traits and capabilities we do. Every species is different and anthropomorphization does none any favor. Nor is similarity to ourselves the only reason to value or respect a creature. The absence of a "self" is not tantamount to absence of value. We may value nonhumans precisely in their difference from us.

3. Tomasello suggests that joint intentionality was first evident in *Homo Heidelbergensis* 400.000 years ago, and was then shared by Neanderthals and *Homo sapiens*, while culture arose later among our species alone (Tomasello 2014, 2016). This area of research is in flux. But I would suggest the following. *Homo erectus*, from which Heidelbergensis probably arose, with double the brain size of earlier hominins, seems to have spread across the entirety of the old world from Africa and to have controlled fire. Those are remarkable advances; whether they were based in joint intentionality is unclear. It may be that language, initially manual but later verbal, evolved for a very long time, and was characteristic of all these advanced hominins in some form, as well as *Homo neanderthalis*, with as large a brain as ourselves. As for artifactual culture, there is some evidence for it among Neanderthals, but as yet not the volume or kind of creations as *Homo sapiens* in the past 100.000 years or so.

ABSTRACTS

What is the core of the distinctiveness of *Homo sapiens*? Some of the most famous hypotheses include tool use and tool making, language, free will and moral agency, self-consciousness, mind itself, and reason or rational problem-solving. All these answers are partly true. But recent work in comparative psychology, primatology, and cognitive science have converged on a conception of human distinctiveness that underlies these. Remarkably, it was explored a century ago by George Herbert Mead. The American pragmatists played a special role in the development of non-reductive naturalism. But among them, Mead uniquely endorsed the notion of “emergence” developed by the British Emergentists. This led him to an analysis of the emergence of the human self and mind out of social processes, most famously employing his concept of “significant gesture.” In recent decades both notions have been buttressed by philosophical and scientific work. Emergence has returned in the sciences of nonlinear dynamics and complexity, and has been re-conceptualized by philosophers like William Wimsatt. Mead’s social conception of the human mind and self have been repurposed by a host of scientists, as in Michael Tomasello’s conception of “joint intentionality” and Antonio Damasio’s analysis of self-consciousness. These developments show that Mead was remarkably prescient in his core insights.

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G. H. Mead's Philosophical Hermeneutics of the Present

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Introduction

- 1 George Herbert Mead spent the last years of his life reflecting on a pragmatic account of temporality and emergence. In his notebooks, later to be published in *The Philosophy of the Act*, Mead poses the question, “Does the significance of the results of historical investigation and consequent reconstruction belong to the past where events lie, or is it to be found in the present or future?” (Mead 1972: 92). He quickly answers, without much defense, “the significant content that historical research reveals” is “a newly discovered present which can only be known and interpreted in the past which it involves.” It is within the pages of Mead’s *The Philosophy of the Present*, “The Nature of the Past,” and select fragments in his *The Philosophy of the Act* that a compelling hermeneutic account of past, present, and future is developed.
- 2 In what follows I draw together what is a largely neglected account of the hermeneutic thrust of Mead’s late writings. In particular, I argue that Mead’s philosophy of the present also amounts to a theory of interpretation. In an open dialogue with a number of Hans-Georg Gadamer’s most fundamental concepts for his philosophical hermeneutics, I demonstrate how Mead’s notion of emergence in the present of both past and future neatly aligns with Gadamer’s notions of tradition, prejudice, and application (*phronesis*), as required for a hermeneutic understanding of what Gadamer calls “the life-powers of the present.” I will trace the foundation of this common ground by highlighting the pivotal influence of Wilhelm Dilthey on both Gadamer and the young Mead. Then, I will draw out the consequences this mutual influence has on the critique of the methodological historicist tradition. Throughout I demonstrate several missed opportunities by Hans Joas at providing a philosophical hermeneutic account of Mead’s work. It is my intention to display how together the traditions of philosophical hermeneutics and pragmatism inform one another.

The Influence of Dilthey on Mead's Philosophical Hermeneutics of the Present

- 3 What is largely accepted as the book that re-introduced Mead to European social thought, Hans Joas' (1997) *G.H. Mead: A Contemporary Re-examination of his Thought* makes no mention of the affinities between the works of Mead and Gadamer. In the same text, we are reminded, however, of Dilthey's influence on the young Mead (Joas 1997: 4, 18-9; see also Jung 1995). From April 1889 to October 1891, Mead was registered in the philosophy department at the University of Berlin (Joas 1997: 218).¹ While there, he enrolled in Dilthey's Ethics and History of Philosophy courses, and undertook to write a dissertation under Dilthey, the topic of which was a critique of empiricism's concept of space (Joas 1997: 19, 218). Unfortunately, he was never to write this dissertation, though his Carus lectures may be understood as an argument against a theory of space-time that does not acknowledge novelty, or the emergent, and as such is a return to his youthful preoccupation with the ideas that were stimulated during his time under the study of Dilthey. For Joas (*ibid.*: 18), "this fact" of Dilthey's influence "is of essential importance for an understanding of Mead's roots." Now, it is important to note that this period of study under Dilthey occurred during the same years that hermeneutics displaced psychology as the focal point of Dilthey's thought (Bollnow 1936; see also Grondin 1994: 88). However, nowhere in his book on Mead does Joas provide any discussion of Mead's work in relation to Dilthey's hermeneutics. Instead, Joas focuses on the psychological similarities and differences between the two thinkers. The "crucial difference" of course is whereas Mead recognized the self as a set of complex social structures, Dilthey remained committed to developing a methodology that reveals the unshakable foundation of the self in order to emancipate the human sciences from the natural sciences (Joas 1997: 42). Interestingly enough, as will soon be shown, this is the same critique that Gadamer also gives of Dilthey.

Interpreting the Emerging Present in Mead and Gadamer

- 4 Mead's *The Philosophy of the Present* is no doubt a hurried text. Written for the American Philosophical Association's annual Carus lectures in 1930, his work was largely completed during his travels from Chicago to Berkeley, California (Joas 1997: 167; Mead 2002: 7). Mead died a year after the completion of this manuscript, and illness brought a publishable redrafting of his lectures to a halt (*ibid.*: 7). Nonetheless, Mead's lectures were published posthumously under the same title, with an editorial inclusion of supplemental essays. Similarly, Gadamer's fifth edition of the original German *Truth and Method* includes supplemental essays. Indeed, we know Gadamer insisted on including these supplemental texts as part of the whole of his *Truth and Method* (Grondin 2003: 13). It is worth noting in passing that the very idea of acknowledging the need to bring to light the supplemental aspect conditional to all present understanding serves as an analogy for Mead's theory of the present. From this viewpoint, we may also frame the students' notes and Charles Morris's editorial liberties in *Mind, Self, and Society* as necessary supplements to the reading of Mead.

- 5 Possibly the most important of Gadamer's supplemental essays is his "Hermeneutics and Historicism." Towards the end of this essay, Gadamer makes a set of interrelated claims on philosophical hermeneutics, historicism, and temporality from which the discussions that follow will pivot. Gadamer states that the historicist who takes himself too seriously will in time become un-historical, for that image of the historicist returns to "the ideal of complete enlightenment" (Gadamer 2006: 530-1). It is this ideal that gives way to, as Gadamer puts it, the "historical irrationalism of Dilthey" (*ibid.*: 531). He goes on to say:

Is it not the utopian ideal of a present in the light of which the whole of the past will, as it were, be entirely revealed? Historical thinking does not at all seem best characterized as applying the superior perspective of the present to the whole of the past; that is rather the obstinate positivity of "naive" historicism. Historical thinking has its dignity and its value as truth in the acknowledgment that there is no such thing as "the present," but rather constantly changing horizons of the future and past. It is by no means settled (and can never be settled) that any particular perspective in which traditionary thoughts present themselves is the right one. "Historical" understanding, whether today's or tomorrow's, has no special privilege. It is itself embraced by the changing horizons and moved with them. (*ibid.*)

- 6 I take this to mean what Gadamer has called elsewhere in passing "the life-powers of the present" (Gadamer 2008: 6). Now, it is important to note, again, Gadamer's parenthesizing "the present" in the above quote. It is not that there is no such thing as the present, but that there is no "complete enlightenment" of the present. Accordingly, he notes in his 1981 essay "The Old and The New," "The openness to what is new, the life in expectation is our constant present" (Gadamer 2019: 53). Thus, there is no special privileged perspective that allows for a present that is "entirely revealed."
- 7 For those who are familiar with Mead's philosophy of temporality, Gadamer's words strike a glaring resemblance to the consequences of Mead's assertion that "reality exists in the present" (Mead 2002: 35; see also Mead 1964: 345-54). This present is not to be understood from the abstracted "knife-edge present" of the natural sciences, a present devoid of change and passage, but as a specious present (Mead 1972: 220-1; see also Miller 1973: 172-87). As such, whatever we experience, we experience in its temporal spread. And within each temporal spread there is a "tang of novelty" (Mead 1964: 3).² Mead (2002) attests it is to the determinant of the natural sciences that they view the instant in time as capable of being wholly revealed. Much is lost in human understanding when their philosophies of the present do not permit for the emergence of novelty within the human experiencing of the present, for the experiencing of the present is always an "integration of what is taking place" (*ibid.*: 51). That is to say, what makes for continuity and novelty is the continual process of adjustment in the present, where the past conditions the novel event, which at the same time enlists a reinterpretation of our past experiences and future expectations.³ The emergent event is a surprise, a break, a discontinuity (Mead 1964: 347). Continuity is the immediate resolution of the surprise or break (*ibid.*: 345-54).
- 8 Emphasizing the temporal nature of our existence, for Mead, the specious present is also to be understood as an act (Mead 1972: 65; see also Rosenthal 2000: 126-7). "We actually see a bird fly, but we do not see it as one of Zeno's points or at a fixed location in space, then at another, then at still another, and then add these positions together to get motion or change of position." (Miller 1973: 172; see also Mead 1972: 65). We never experience in instants, rather the unity of experience is the act (Mead 1972). The

present entails both a before and an after. However partial, recent memory and immediate anticipation are within its limits.

- 9 For Mead, to understand time is to understand the emerging event or novelty within experience and how novelty can be adjusted to reflect a familiarity with our past, present, and future plans. As Rosenthal notes, “the process of adjustment between the old and new is constitutive of the passing present” (Rosenthal 2000: 126). We may then say that the past and future serve as integrative functions for the present. To put it in idiomatic form, the past and future help us get our bearings: “The bird abruptly left the tree and is soaring in a direction opposite from me. I do not have to duck.” To put it figuratively, the present is not each page of a flipbook, it is the whole flipbook in motion. The past merges with the present in the same temporal space that the future emerges. This is why Mead states that “the past is an overflow of the present” (Mead 1964: 348). The past doesn’t have to be the case, but it is always cased in the present.
- 10 Acknowledging the “tang of novelty” in each present experience, then, would pose serious questions to common notions of causality in the natural sciences. Instead, it would demand that each novel experience in our present reconstruct the nature of our past and our conduct-oriented predictions of the future.
- 11 In his 1964 essay “Is There Causality in History?,” Gadamer makes a distinction between causal and historical experience. What distinguishes history from natural science is that in the natural sciences each cause has a fundamental knowable and equal effect whereas for history, “small causes have huge consequences” (Gadamer 2019: 4). These consequences in history are, however, not by necessity foreseeable (*ibid.*: 5). Gadamer states: “It obviously belongs to the experience of those who stand within history that it surprises them.” (*Ibid.*). We are open to the surprising – let us say, novel – event when we orient ourselves to the world historically. Through a surprising event we are met with a discontinuity between cause and effect. What’s more, as soon as we question causality, Gadamer tells us, we are posing a practical problem (*ibid.*: 3). The result is the following: “[Individuals] try to come to grips with the situation in which they find themselves and find the right course of action, do what is required and handle the situation in the desired sense.” (*Ibid.*: 4).⁴ “Understanding, then, is a special case of applying something universal to a particular situation.” (Gadamer 2006: 310). Still, Gadamer (2019: 4) formally divides the causal and the historical into two separate dimensions of study. Unlike Gadamer, Mead explicitly collapses the causal and historical experience in his notion of the specious present. There universal and particular, continuity and novelty, causality and surprise, reflection and action are intimately intertwined. Nonetheless, for both thinkers, historical experiencing involves direction or purpose as much as it involves a repurposing of the past. It is important to highlight, however, that both Mead and Gadamer recognize purposefulness as a primary feature of any explanation of causality, and both acknowledge Aristotle’s causes as the origin of this notion (Gadamer 2019: 7-9, 12; Mead 1972: 641). Insofar as the teleology of causality is expressed as the successful restoration of continuity in a novel present in order to appropriate future conduct, by applying Mead’s specious present to Gadamer’s critique of historicism, we then dissolve Gadamer’s “schism” of causality’s continuity and history’s novelty (Gadamer 2019: 5).
- 12 When rethinking causality from an historically-effected consciousness, then, the inevitability of cause and effect allows for continuity *and* novelty, for “the character of the past is that it connects what is unconnected in the merging of one present into

another” (Mead 1964: 351). In other words, when we say “inevitability” in reference to causation what we are really saying is “the continuity in the passage of events” (*ibid.*: 350). Thus, inevitability is as much a successful readjustment to the present as it is a determinate of the past. It is important to remember that “without this break within continuity, continuity would be inexperienceable,” that is, the novelty of surprise is necessary for an experiencing of continuity and deliberative action (*ibid.*). The past serves as an integrative function. As such, a constant restructuring of our immediate experiencing is the natural response to a present that can never be “entirely revealed.” Here, Mead’s notion of the specious present advances Gadamer’s rebuke of Dilthey’s “naïve historicism.”

- 13 In “the age of unconditional faith in science” (Gadamer 2019: 6) the knife-edge present prevails where the belief in a wholly revealed in-itself present-as-an-instant is achievable. Mead’s specious present, much like Gadamer’s hermeneutical experience, demands a historically-effected response to the present that is open to emergence, novelty, and reconstruction. When Gadamer speaks of “no such thing as ‘a present’” it appears that he is trying to articulate something like the “knife-edge present” which Mead is also criticizing. Had Gadamer conceptualized his argument against historicism as a critique against any historical investigation that “implies that there is or has been a past which is independent of all presents” (Mead 2002: 40),⁵ which is also another way of criticizing temporality as a series of isolated instants, his view would allow for an explicit distinction between an open (specious) present versus a closed (instant) present. Instead, Gadamer leaves himself open to the misinterpretation that there is no method whatsoever from which to arrive at a more accurate understanding of the present. For Gadamer states in the Afterword to his *Truth and Method*:

It was, of course, a flat misunderstanding when people accused the expression “truth and method” of failing to recognize the methodical rigor of modern science. What hermeneutics legitimates is something completely different, and it stands in no tension whatever with the strictest ethos of science. No productive scientist can really doubt that methodical purity is indispensable in science; but what constitutes the essence of research is much less merely applying the usual methods than discovering new ones – and underlying that, the creative imagination of the scientist. (Gadamer 2006: 555)

- 14 Mead makes the same point when he states that, “while the conception of an ‘in-itself’ irrevocable past is perhaps the common background of thinking, it is interesting [...] that the research scientist looks forward not only with equanimity but also with excited interest to the fundamental changes which later research will bring into the most exact determinations which we can make today.” When Mead (2002: 41) goes on to say that “[t]he picture which this offers is that of presents sliding into each other, each with a past which is referable to itself, each past taking up into itself those back of it, and in some degree reconstructing them from its own standpoint” we notice a conceptual resemblance to Gadamer’s picture of a fusion of horizons, where “the horizon of the present cannot be formed without the past” (Gadamer 2006: 305). Nearly identical in tone and content to Mead, Gadamer continues: “There is no more an isolated horizon of the present in itself than there are historical horizons which have to be acquired. *Rather, understanding is always the fusion of these horizons supposedly existing by themselves.*” (Gadamer 2006: 305; his emphasis). Unbeknownst to him, Natanson (1953: 772) captures the link between the two nicely when he states that “the content and meaning of the past event are, for Mead, structured and continually restructured in terms of a present that is itself within a horizon of temporal movement.” What’s

more, Mead scholar Tonness (1932: 604-5) refers to this “extension of horizons” of the present situation as exhibiting a “field of orientation.”⁶ In this sense, Gadamer’s view of horizons captures the same contextualizing experience of the interpreted present as does Mead’s specious present.

- 15 When Miller (1943: 44-6) reflects on what starts the scientist thinking for Mead, his interpretation leads him to discuss such notions as “prejudice,” “hypothesis,” and even “tradition.” Yet it is not only Natanson (1953), Tonness (1932) or Miller (1943) whose discourse on Mead shares in character that of Gadamer. In a fragment in his *The Philosophy of the Act* Mead emphasizes the knowing of the past and causal future within the present as a hermeneutical task.⁷ As it is an often-ignored passage, it is worth quoting Mead at length here. He states:

The passing present, compounded of the past which is determined by the *interpretation of the present* and the future which comes to us as alternative possibilities, is what we have. The past is always necessary, but the past which is there is not necessary, i.e. is dependent upon the future which determines *the present and its interpretation*. It is the emergent that determine the selection of the futures and, hence, the pasts that are their so-called causes. The values are absolutes that arrive. The pasts that succeed one another could never be prophesied from one another. Nothing is lost, but that which arrives that is novel gives a continually new past. Its reality is in its *interpretation of the present*. (Mead, 1972: 616; emphasis added)

- 16 In what follows, I will focus on how Mead’s understanding of how the emergent in experience (that is, the event that brings forth the present), to use a Gadamerian, phrase “speaks to us.” To shift toward this direction, I will note first the affinity in language between these two thinkers themselves.

Interpreting the Present as Understanding the Emerging Event

- 17 Before settling on the more evocative title of *Truth and Method*, Gadamer played with the idea of calling his manuscript *Understanding and Event* (Grondin 2003: 13). In light of this, a comparison to Mead’s *The Philosophy of the Present* may advance a clearer comparison, as Mead often uses the words present, emergent, happening, novelty, and event interchangeably (Mead 1964; 2002). How does one come to understand an event? And what comes along with us when we interpret such an event? Both Mead and Gadamer were searching for answers to the same questions. For Gadamer, understanding is both interpretation of and participation in the event of tradition, “a process of transmission in which past and present are constantly mediated” (Gadamer 2006: 290-1). As an interpretation, understanding is both a statement and a question (Gadamer 2007: 242). As a participating, it is inherently practically oriented. It is an application (Gadamer 2006: 305-20). As Hoy aptly puts it, Gadamer’s emphasis on interpretation as application is a “philosophical point about the interest-bound character of all knowledge” (Hoy 1982: 111). Interpretations always serve a purpose. For Mead, the locus of reality is the present. And since each present is a socially mediated event, each present participates in the sociality of traditions (Mead 2002). Mead defines an “emergent event” as “the occurrence of something which is more than the processes that have led up to it and which by its change, continuance, or disappearance, adds to later passages a content they would not otherwise have

possessed” (Mead 2002: 52). That is to say an emergent event leaves a novel trace from the past and marks our future conduct.

- 18 Gadamer makes a similar claim when he states, “[T]here can be no doubt that the great horizon of the past, out of which our culture and our present live, influences us in everything we want, hope for, or fear in the future. History is only present to us in light of our futurity” (Gadamer 2008: 8-9). Thus, understanding gives new direction as much as it restructures the experience of the past, for “[t]he openness of the future is the clarity of our existence itself” (Gadamer 2019: 53).
- 19 For Gadamer as for Mead we apply a reframing of the past as it meets the present experience in order that we can achieve a future task (Gadamer 2006: 291; Mead 2002: 57). So, when Gadamer says that all statements are an answer to a question he is implying that each interpretative statement is future-oriented, that is, a task, for “it responds to a challenge” (Gadamer 2007: 242). Gadamer explicitly acknowledges this in a later article where he gives a historical account of the notions of subjectivity and intersubjectivity (Gadamer 2000: 280-1). Gadamer does so by highlighting a Heideggerian inspired notion of “*givenness-on-the-way*,” where Dasein as thrown begins its present with prejudice to a non-given future. From this perspective, nothing is given. We are thrown into the task of understanding. This is what Gadamer means when he says that historically-effected consciousness is more Being than consciousness (as quoted in Warnke 1987: 80). He says,
- Long before we understand ourselves through the process of self-examination, we understand ourselves in a self-evident way in the family, society, and state in which we live. The focus of subjectivity is a distorting mirror. The self-awareness of the individual is only a flickering in the closed circuits of historical life. That is why the prejudices of the individual, far more than his judgments, constitute the historical reality of his being. (Gadamer 2006: 278)
- 20 Being thrown, a historically-effected consciousness admits that it begins to understand from a prejudiced position, and as such, “to see that any understanding of a subject-matter is necessarily prejudiced [...] is to see that the idea of reason itself refers to that which has come to be taken as rational *within* a particular tradition” (Warnke 1987: 80, emphasis added; see also Bernstein 1983: 130). As a result, it is our situatedness within a tradition that our historical understanding *limits* the arbitrariness of our particular perspective and reinforces a whole “history of interpretations” of the emergent present (Warnke 1987: 80). To note, this notion is closely related to what Mead (2002) means when he describes emergence as a social present. “The general structure of understanding,” Gadamer reminds us, “is concretized in historical understanding, in that the concrete bonds of custom and tradition and the corresponding possibilities of one’s own future become effective in understanding itself” (Gadamer 2006: 254). Both Mead and Gadamer recognize that any historical method that attempts to ground the past once and for all, as a “real past,” slides into a theological or metaphysical given. This is both Mead and Gadamer’s issue with Dilthey’s tenacious attempt to ground the human sciences in a particular method. For Gadamer as much as Mead, then, our understanding of our present emerges out of our lived past, both in our individual prejudices and communal traditions, and our future oriented-ness. The past is given reality only insofar as it provides our present with a task.
- 21 Now, since understanding is a participating in an event of tradition, and as such, it is “a process of transmission in which past and present are constantly mediated,” Gadamer is forced to admit that it is incumbent upon hermeneutic theory to “validate” the ways

in which past and present are constantly mediated (Gadamer 2006: 291, 295). Mediation suggests an intervention in which to reconcile or resolve a dispute. Here, the dispute is between our previous beliefs of the past with the emergence of an event. As we know, events always occur in the present. It is the job of the hermeneutic, then, to validate how tradition participates in the present. That is, philosophical hermeneutics must in time give *reasons* for the understanding of a text, object, behavior, communication, etc. that is landed upon. What Gadamer neglects, however, is a clear argument for how an event in the present can share in novelty and continuity with the past. In this regard, while remembering Mead's critique of the natural science's philosophies of the present, Gadamer can be said to have fell for the same pitfalls the natural sciences arrive upon when attempting to articulate the reality of emergence or novelty.

- 22 In *Beyond Objectivism and Relativism: Science, Hermeneutics, and Praxis*, Bernstein calls attention to how Gadamer's hermeneutical understanding, conditioned by the temporality of prejudices and prejudgments, creates a threefold character. Bernstein states: "[prejudices and prejudgments] are handed down to us through tradition; they are constitutive of what we are now (and are in the process of becoming); and they are anticipatory – always open to future testing and transformation" (Bernstein 1983: 140-1). Though Bernstein does not bring up Mead or any of the pragmatists in this regard, it was his intent to implicitly link the practical import that founds science and hermeneutics (Bernstein 2010: 29). Mead perfectly sums up Bernstein's point about the threefold character of Gadamer's hermeneutical understanding when he remarks that "[t]he passing present, compounded of the past which is determined by the interpretation of the present and the future which comes to us as alternative possibilities, is what we have. The past is always necessary, but the past which is there is not necessary, i.e., is dependent upon the future which determines the present and its interpretation." (Mead 1972: 616). When Mead describes the passing present as "what we have" he is reminding us, much like Gadamer had, that there is no "special privileged" "perspective in which traditionary thoughts present themselves [as] the right one." We begin with "what we have" in the present.⁸ And it is for this reason that Mead states that "[p]asts that we are involved in are both irrevocable and revocable" (Mead 2002: 36). Thus, the irrevocability of the present can be understood as necessary prejudice, though our prejudices are never incorrigible. To highlight the affinity between these two thinkers, then, we must heed Gadamer's plea to "fundamentally rehabilitate the concept of prejudice" by acknowledging those notions where Mead effectively articulates, though not directly in name, both a notion of prejudice and its practical import in temporal understanding (Gadamer 2006: 278).

Prejudice as Hypothesis: Integrating Gadamer and Mead's Philosophy of the Emergent Present

- 23 Gadamer's (2006: 273) claim that "the fundamental prejudice of the Enlightenment is the prejudice against prejudice itself" is not a call for accepting the authority of prejudice and tradition uncritically.⁹ It is also not an affirmation of prejudice as understood to the modern ear. Rather, his discourse on prejudice is a genealogy of the origins of the use of prejudice in understanding. And it is in this genealogy that we come to find the modern conception of prejudice, as it began in the Enlightenment, as a distorted view of the notion. The Enlightenment critique of religion forged a complete

disavowal of any judgment that does not have a methodological justification (Gadamer 2006: 273). In the wake of this critique, the distorted negative view of prejudice remains to this day. It is worth quoting Gadamer at length on the matter:

Actually, “prejudice” means a judgment that is rendered before all the elements that determine a situation have been fully examined. In German legal terminology a “prejudice” is a provisional legal verdict before the final verdict is reached. For someone involved in a legal dispute, this kind of judgment against him affects his chances adversely. Accordingly, the French *préjudice*, as well as the Latin *praejudicium*, means simply “adverse effect,” “disadvantage,” “harm.” But this negative sense is only derivative. The negative consequence depends precisely on the positive validity, the value of the provisional decision as a prejudgment, like that of any precedent. Thus “prejudice” certainly does not necessarily mean a false judgment, but part of the idea is that it can have either a positive or a negative value. This is clearly due to the influence of the Latin *praejudicium*. There are such things as *préjugés légitimes*. This seems a long way from our current use of the word. (Gadamer 2006: 273)

- 24 After excavating the original conception of prejudice, its original usage begins to approximate the same linguistic function as a hypothesis. Much like a hypothesis, a prejudice is a “judgment that is rendered before all the elements that determine a situation have been fully examined.” It is as “provisional” as a hypothesis. In what follows, I will argue for the practical comparability between the everyday original notion of prejudice with the formal – dare I say, methodological – notion of hypothesis in scientific discovery.¹⁰ By doing so, the similarities between Gadamer and Mead’s philosophies of the present and emergence will come to light.
- 25 To begin, when Mead (1972: 67) refers to a hypothesis as necessarily situated in the biographies of individuals, he is essentially recognizing the initial stage of inquiry as intimately tied up with an individual’s historicity.¹¹ In a later comment regarding the interrelatedness between individual, community, and historicity, Mead is compelled to speak of prejudices. He states:
- History serves a community in the same way as the memory does the individual. A person has to bring up a certain portion of the past to determine what his present is, and in the same way the community wants to bring up the past so it can state the present situation and bring out what the actual issues themselves are. I think that is what history uniformly is. It is always prejudiced in one sense, that is, determined by the problem before the community. (*Ibid.*: 80-1)
- 26 Mead also refers to hypotheses as “the very stuff of our knowing” (Mead 1972: 63). This “stuff” of our knowing is the unquestioned “world that is there” (Mead 1972; see also Miller 88-103). This world that is there is an undifferentiated world that is not doubted but is not indubitable (Lee 1963). In brief, Mead and Gadamer want to do justice to our human finitude by acknowledging the irreducibly prejudiced historicity of our present situatedness. To ignore our prejudices as if they do not exist, blocks the road of inquiry in the same way it distorts our human reality (Gadamer 2006: 278).
- 27 As with hypotheses, “[t]he prejudices and fore-meanings that occupy the interpreter’s consciousness are not at his free disposal. He cannot separate in advance the productive prejudices that enable understanding from the prejudices that hinder it and lead to misunderstanding” (Gadamer 2006: 295). Rather, as Mead notes, an individual’s “foresight does not go beyond the testing of his hypothesis” (Mead 1964: 3). Our prejudices, just as our hypotheses, are those contents of a problematic situation that are “immediately functional” (Mead 1972: 219). They initiate an act. They are our *initial*

hypothetical-prejudicial response. Prejudices “constitute the *initial* directedness of our whole ability to experience” (Gadamer 2008; my emphasis). Hermeneutics, much like the initial stage of Mead’s experimental method of both the sciences and individual conduct, begins with a prejudiced “what is there” that is always articulated as a hypothesis to a present problem. Where for Gadamer (2007: 242) all statements are questions, for Mead (1972: 88-9), all propositions are hypothetical questions, and as such, statements and propositions “can become a problem.” If all propositions are hypothetical, all propositions begin with a prejudice that demands testing. Before all else, then, is the problem of interpretation. This is precisely what Gadamer means by the universality of the hermeneutic problem (Gadamer 2008: 3-17).

- 28 It is important to note that Gadamer was not interested in the epistemological question as much as the ontological position of the interpreter. For this reason, Gadamer begins and ends with the hypothetical, while Mead’s scientific method includes initial prejudices but is not limited to it. As such, it would have better served Gadamer had he not adhered to a prejudice of methods generally understood, and instead narrowed his critique, in the spirit of pragmatism, to those methods of arriving at an understanding of our present experiences “entirely revealed” by an independent past (see Mead 2002). Nonetheless, Mead and Gadamer both arrived at the idea that our present prejudiced positions do not get in the way of understanding but are rather the conditions of possibility for it.

Dilthey, Mead, and Gadamer. A Neglected Philosophical Tradition

- 29 Recognizing this affinity between Gadamer and Mead, and their mutual criticism of Dilthey,¹² I would like to turn now to the question, given the mutual influence Dilthey had on both thinkers, that this common ground between the two have yet to be highlighted by Mead scholars, particularly Hans Joas (see also Jung 1995).
- 30 It is only in his more recent essay titled “Pragmatism and Historicism: Mead’s Philosophy of Temporality and the Logic of Historiography” that Joas begins to articulate an encounter between Mead’s pragmatism and hermeneutics, broadly understood. I say “broadly understood” because Joas only uses the term hermeneutics once in a passing reference to Heidegger’s hermeneutic circle, and only when describing how to deal with the most difficult passages of Mead’s text (Joas 2016: 66). In this way, he only uses the term hermeneutics in its traditional textual interpretative sense of a methodology of the human sciences (*Geisteswissenschaften*). As a result, Joas again avoids any dialogue with Gadamer’s philosophical hermeneutics. His reluctance to do so is likely due to the fact that Mead’s *The Philosophy of the Present* primarily refers to the natural sciences whereas Gadamer’s philosophical hermeneutics is motivated by a critique of the historicists’ impulse to ground the human sciences in natural science’s rigid methodologies (see Bernstein 1983). For Joas is right in emphasizing that “common to both [Mead and Dilthey] [...] was the intention of establishing a basis for objective knowledge and open-mindedness towards the natural sciences” (Joas 1997: 41). However, Joas himself admits that Mead’s attempts to “naturalize” mental phenomena were constructed in non-reductionist forms. Alicia Garcia Ruiz (2013: 44) states this point more clearly in her essay on Mead, “The Concept of the Present and Historical Experience,” when she stresses that the link between Mead and Dilthey is

found in their shared aim to develop a historical method that emphasizes *understanding* as much as explanation. Unlike Dilthey, Mead's historical methods to interpreting the present focus on the possibility of infinite reconstructions. For Dilthey, historical knowledge can have a foundation, whereas for Mead, knowledge of the past is as hypothetical as the future (Mead, 2002: 44; see also Lee 1963). Viewed in this way, *The Philosophy of the Present* presents a damning critique of the philosophies of the natural and historical sciences of time. "We *orient* ourselves not with reference to the past which was a present within which the emergent appeared," Mead states, "but in such a restatement of the past as conditioning the future that we may control its reappearance." (Mead 2002: 46; emphasis added). Here, Mead's approach to historical knowledge looks more like an orientation to understanding the present than a specific method. Thus, Mead's philosophy of temporality, now reconsidered as a theory of understanding, is as much a critique of the natural sciences as they stand as it is a critique of historicism. Gadamer (2000), we know, provides the same critique of historicism. And as both Mead and Gadamer were heavily influenced by Dilthey, we may say, in the way that Gadamer (2007: 242) demands we trace each statement to the motivating question that precedes it, that both Mead and Gadamer were attempting to answer the questions left behind Dilthey's statements on the human sciences. That is, both thinkers were, to use Gadamer's words noted above, responding to the same challenge.

- 31 The current that runs through Dilthey, Mead, and Gadamer, then, is the notion that knowledge and truth can be revealed and realized through understanding. As noted above, it is important to emphasize that understanding, interpretation, and application are internally related (Gadamer 2006: 307; see also Bernstein 1983). This synthesis falls more in line with Mead's interpretation of the present as always including a practical orientation to the future funded by a reconstructed past than it does with Dilthey's methodological historicism.
- 32 To briefly demonstrate how highlighting the hermeneutic thread in Mead's later writings, and its affinities with Gadamer's philosophical hermeneutics, can inform not only each thinker's work, but the work of authors in either tradition, let us consider a criticism Joas (2016) gives of Mead in his essay "Pragmatism and Historicism."
- 33 Joas (2016) believes Mead to have failed to think of the moral universalism of role-taking in historical terms. As Mead's theory of role-taking plays a large part in his general theory of intersubjectivity, recognizing how the notion of intersubjectivity arrived historically can provide the answers that Joas so seeks from Mead. In Gadamer's (2000) late piece titled "Subjectivity and Intersubjectivity, Subject and Person," Gadamer gives a conceptual history of the account of intersubjectivity. In the article, Gadamer emphasizes the beginnings of the notion of subjectivity, and how the notion of persons, with its own conceptual tradition, dies out. Gadamer (2000: 285-6) sketches the conceptual origin of persons with its Greek expression in *prosopon*, meaning the "masks of actors, and hence also for the roles played by the actors in Attic theater," and continuing with the Latin, *persona*, and traces it all the way to Luther who "connected the concept of person most closely with that of *fides*, the rule of belief." Gadamer (2000) concludes the article by noting how history "remarkably" lost the philosophical conceptual language of persons to the modern concept of subjectivity, where if persons had remained a part of our philosophical discourse, it would more neatly align with our current theories of intersubjectivity. Perhaps, then, Joas could have benefited from

having a conversation with Gadamer and the tradition of philosophical hermeneutics when developing his ideas not only in his book *The Sacredness of the Person*, but also his latest essay on Mead's historicism.

Conclusion

- 34 It is only in Mead's later writings that we may disinter a philosophic hermeneutic account of the present. In this regard, the reader may have noticed the absence of any reference to Mead's famous *Mind, Self, and Society* in the previous pages. There is historical purpose to this decision. First, along with Huebner (2014) I believe *Mind, Self, and Society* has nearly monopolized all discussion of Mead's philosophy, in turn neglecting the historical significance of his later writings. Secondly, but equally as important, unlike the references to Mead I made in this essay, *Mind, Self, and Society* is largely the work of student notes and stenographers, to which significant liberties of the book's editor, Charles Morris, were taken to reconstruct the spoken lectures of the past into a then-present written form.¹³ Lastly, of Mead's writings that I reference here, particularly his Carus lectures and his article "The Nature of the Past," they were written of his own hand with a view towards a public audience.
- 35 Considering the above points, it is best first to read Mead as a hermeneutic philosopher, and then turn to a reading of *Mind, Self, and Society*, a text that no doubt was born out of a hermeneutic orientation and begs to be read with the same historically-effected consciousness that Gadamer champions.
- 36 Interestingly, though recognizing the importance of treating Mead as a philosopher of history, Huebner (2014, 2016) neglects to identify the hermeneutic thrust of Mead's writings on history and the present. Huebner is not alone in his missed opportunity to explicitly identify the affinities between Mead's later writings and the hermeneutic tradition. As we noted, Joas (1997, 2016) too ignores any hermeneutic import to Mead as historicist, even when acknowledging the influence of Dilthey on the young Mead. Further still, the initiator of Mead's legacy within the sociological tradition, Herbert Blumer (1998), recognizes the importance of interpretation in the method of symbolic interactionism. But again, no mention is made of the relation between Mead's work and the hermeneutic tradition as it appears in Dilthey and Gadamer (Blumer 1998, 2004). Though pragmatist scholar Rosenthal (2000) emphasizes the importance of interpretation in Mead's philosophy of the present, she too misses an opportunity to reflect on the affinities between Mead's pragmatism and the hermeneutic tradition. These missed opportunities are likely due to the fact that the above interpreters of Mead, though even with their greatest efforts to do otherwise, read Mead from a rigidly historicist perspective instead of reading Mead the way Mead implored us to read our present situations (Mead 2002).
- 37 Both Mead and Gadamer would agree that "the real fulfillment of the historical task is to determine anew the significance of what is examined," recognizing, of course, that what is examined is always examined in a present complete with all of the prejudices we bring with its emergence (Gadamer 2006: 283). There is no doubt, however, that a more robust account of the affinities between pragmatism and philosophical hermeneutics must include a detailed discussion of Dilthey and Heidegger and to what extent language, the self, consciousness, sociality, perspectives and role-taking plays a part in Mead's hermeneutics. It would also serve our argument well if Gadamer's

distinction of experience as *Erlebnis* and *Erfahrung* were explored in relation to Mead's analysis of continuity and novelty in the present. Moreover, a comparison between Mead's pragmatism and Gadamer's philosophical hermeneutics is incomplete without an inquiry into the important notion of play for both thinkers. And notwithstanding the arguments made above, certainly, there is value in recognizing the common ground between pragmatism and historicism. Nonetheless, Joas' (2016) particular account stops at Dilthey, and in turn, ignores Gadamer's philosophical hermeneutics. Rather than compare Dilthey's historicism to Mead's philosophy of time, I interpret Mead's philosophy of the present as an attempt to move beyond Dilthey's 'naive' historicist hermeneutics, and as such, Mead essentially provides a theory of applied interpretation of the present that simultaneously respects our traditions and prejudices while remaining open to future possibilities. As a result, Mead's philosophy of the present aligns more with Gadamer's philosophical hermeneutics than with methodological historicism.

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NOTES

1. It is worth noting that Mead was also a student of Josiah Royce, the only pragmatist philosopher to develop a theory of interpretation. For more on Royce's theory of interpretation, I refer the reader to Corrington 1995.
2. In defining the emergent, Mead states: "A present then, as contrasted with the abstraction of mere passage, is not a piece cut out anywhere from the temporal dimension of uniformly passing reality. Its chief reference is to the emergent event, that is, to the occurrence of something which is more than the processes that have led up to it and which by its change, continuance, or disappearance, adds to later passages a content they would not otherwise have possessed." (Mead 2002: 52). Elsewhere Mead notes: "The emergent when it appears is always found to follow from the past, but before it appears it does not, by definition, follow from the past. It is idle to insist upon universal or eternal characters by which past events may be identified irrespective of any emergent." (*Ibid.*: 36). As such, all present experiences are reconstructive both as a result of and results in a "tang of novelty."
3. Gadamer scholar, Jean Grondin states, "all understanding," according to Gadamer, "is nothing other than an adjustment to the thing" (Grondin 2003: 86). That is, understanding is finding "accord" with the past in the present in order to "anticipate" the future (*ibid.*). For the similarities between this account of Gadamerian understanding and Mead's philosophy of the interpretation of the present as a process of adjustment I refer the reader to chapter 8 of Rosenthal (2000).
4. In "The Working Hypothesis in Social Reform" Mead makes a similar claim when he states: "A conception of a different world comes to us always as the result of some specific problem which involves readjustment of the world as it is, not to meet a detailed ideal of a perfect universe, but to obviate the present difficulty, and the test of this effort lies in the possibility of this readjustment fitting into the world as it is." (Mead 1964: 5).
5. Mead goes on to say, "Is there a similar error in the conception of correction of the past error and in the suggestion that it implies the absolutely correct, even if it never reaches it? I am referring to the 'in-itself' correctness of an account of events, implied in a correctness which lies back in the historian's mind would be found to be in the complete presentation of the given past, if all its implications were worked out." (Mead 2002: 40-1). This is the same "romantic" error of original intention Gadamer subscribes to Schleiermacher.
6. Mead states, "The specious present is the immediate field conditioning possible action" (Mead 1972: 228).
7. Though Miller (1973: 172) references the quote, he says nothing of its hermeneutic import.
8. We may also note that much like the notion of "what we have," Mead's use of the phrase "common background of thinking" sounds much like Gadamer's Heideggerian use of the notion "foregrounding" as both asserting and questioning one's prejudices, and in turn, tradition.
9. With the exception of his essay "The Universality of the Hermeneutic Problem" and "On the Circle of Understanding," after *Truth and Method* Gadamer hardly ever made use of the notion of prejudice again (Grondin 2003: 90). It is likely that due to how entrenched the negative connotations of prejudice are to modern ears, Gadamer thought his attempt to rehabilitate the

original use of prejudice led to more misunderstanding than elucidation of the main purpose for enlisting the notion – the inescapability, even for the methodological scientist, of historical situatedness.

10. It is important to note that, for Mead, when referring to a hypothesis it is not merely the initial attitude of the scientist in the laboratory, but also to the conduct of any individual, who by acknowledging their hypotheses as hypotheses in a historically-effected way becomes scientifically oriented (Mead 1964: 3). In relation to this point, Mead refers to the “logical analysis of the experimental method” as “merely the elaboration of the simple processes of everyday inference by which we meet our constantly recurring difficulties” (Mead 1972: 82-3).

11. Compare this to Gadamer’s note on the relationship between hermeneutics and science: “Hermeneutics also has relevance to the theory of science in that hermeneutic reflection discloses conditions of truth in the sciences that do not derive from the logic of scientific discovery but are prior to it.” (Gadamer 2006: 556).

12. It is my belief that Mead’s later writings are in constant dialogue with Dilthey. It is, however, out of the purview of this study to properly argue the point here. It will be enough to point out Dilthey’s general influence on Mead.

13. Huebner’s historical analysis unearths the following: “In several cases, Morris’s notes to himself indicate that he asked students to transcribe their notes or otherwise rewrite them into a more complete form. That is, not only were the contents of the potential volumes constructed in the sense of selected from among the possible notes, but there was also a literal construction of the materials themselves for the volumes.” (Huebner 2014: 121). Aside from the liberties taken by Morris when summarizing and paraphrasing the students’ lecture notes from Mead’s courses, Huebner goes on to say, “in asking students to rewrite their notes [Morris] in effect asked them to build a whole new layer of interpretation into the materials he would then receive, a layer that would be indistinguishable to Morris from the notes as written in the classroom” (*ibid.*: 122).

ABSTRACTS

In this article I draw together what is a largely neglected account of the hermeneutic thrust of Mead’s late writings. In particular, I argue that Mead’s philosophy of the present also amounts to a theory of interpretation. In an open dialogue with a number of Hans-Georg Gadamer’s most fundamental concepts, I demonstrate how Mead’s notion of emergence in the present of both past and future neatly aligns with Gadamer’s philosophical hermeneutics. I will trace the foundation of this common ground by highlighting the pivotal influence of Wilhelm Dilthey on both Gadamer and the young Mead. Then, I will draw out the consequences this mutual influence has on the critique of the methodological historicist tradition. Throughout I demonstrate several missed opportunities by Hans Joas at providing a philosophical hermeneutic account of Mead’s work. It is my intention to display how together the traditions of philosophical hermeneutics and pragmatism inform one another.

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Justificación Y Noción De Verdad

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NOTA DEL AUTOR

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1. Contrapropuesta rortyana a la noción de verdad

- 1 La cuestión de si existe algún conjunto de creencias comunes a todos los seres humanos tiene poco interés, nos dice Rorty, si no es en relación con una visión inclusivista de la comunidad humana. Una visión de comunidad como ésta se enorgullece más de los distintos tipos de gente a los cuales da la bienvenida, que de la firmeza con que mantiene alejados a los extraños. Para este pensador el término "política democrática" es sinónimo del intento de realizar semejante comunidad (Rorty 2000: 79).
- 2 Siguiendo esta idea, Rorty explica que algunos de los filósofos interesados en la política democrática admiten las siguientes tres premisas: 1) El deseo de verdad es un deseo universal, 2) la verdad es correspondencia con la realidad y 3) la realidad tiene una naturaleza intrínseca. Tras la aceptación de estas tres premisas dichos filósofos argumentan que la verdad es una y que el interés humano universal por la verdad proporciona suficientes motivos como para crear una comunidad inclusivista. De acuerdo con este argumento, los sujetos que descubran la verdad única tendrán más cosas en común para compartir y por consiguiente, sus miembros serán más tolerantes e inclusivistas.
- 3 Desde la posición de Rorty, es posible defender una política democrática y negar al mismo tiempo cualquiera de las tres premisas anteriores. La mejor forma de presentar aquello que los filósofos han descrito como deseo universal de verdad es describiéndolo como deseo universal de justificación. De suerte que una de las diferencias que habría entre verdad y justificación sería la diferencia entre lo que no se puede reconocer y lo que puede ser reconocido. Es decir, no podemos llegar a saber con certeza si una

creencia es verdadera o no, pero sí podemos llegar a no tener objeción residual en su contra.

- 4 La noción de verdad como anhelo universal que lleva a ciertos filósofos a insistir en que debemos evitar el “contextualismo” y el “relativismo,” es considerada como un anhelo de verdad que nos lleva a pagar el precio de la irrelevancia práctica. De ahí que según este autor, la verdad no puede ser relevante para la política democrática y termine ciñéndose a la justificación (Rorty 2000: 80-2). La importancia de la justificación residiría en que, si bien suele ser provisional, puesto que antes o después aparecerán nuevas objeciones en contra de la creencia justificada, puede ser reconocida.
- 5 Según esta postura, no disponemos de ningún terreno neutral desde el que sea posible defender la política democrática. Lo importante en el ser humano es su capacidad para ser miembro de una comunidad inclusivista y no su capacidad de conocimiento para captar la verdad.
- 6 Para Rorty, una creencia puede estar justificada pero no ser verdadera de modo que no hace falta contar con una teoría filosófica sobre la naturaleza de la verdad; el contraste que existe entre verdad y justificación es de orden práctico. Entre los diversos usos de la palabra “verdadero,” el único que no puede ser eliminado con facilidad de nuestra práctica lingüística es el uso de advertencia. Este uso de advertencia es utilizado para contrastar audiencias poco informadas con audiencias mejor informadas y, más generalmente, para contrastar audiencias pasadas con audiencias futuras.

En contextos no filosóficos, el sentido de contrastar justificación con verdad es, simplemente, recordarnos que pueden haber objeciones (a causa de la aparición de nuevos datos, nuevas hipótesis explicativas más ingeniosas, cambios en el vocabulario empleado para describir los objetos que se discuten) que no hayan advertido ninguna de las audiencias para las cuales la creencia en cuestión estaba hasta entonces justificada. (Rorty 2000: 87)

- 7 La premisa fundamental de esta propuesta es que solamente podemos trabajar por lo que podemos reconocer. Éste es un corolario del principio de James que afirma que para que valga la pena discutir una diferencia, ésta tiene que ser relevante en el orden práctico. Es decir, supongamos que tenemos dos definiciones filosóficas, o proposiciones o máximas, que aparentemente se contradicen y que son objeto de discusión entre los sujetos. Si suponiendo la verdad de una no es posible prever ninguna consecuencia práctica concebible para nadie en ningún momento o lugar, que sea distinta de lo que puede preverse si uno supone la verdad de la otra, en tal caso la diferencia entre las dos proposiciones no es una verdadera diferencia; tan sólo es una distinción aparente y verbal que no vale la pena discutir.
- 8 La actitud pragmatista adecuada hacia la verdad, según Rorty, puede resumirse como sigue: es tan poco necesario tener una teoría filosófica sobre la naturaleza de la verdad, o sobre el significado de la palabra “verdadero,” como tener una teoría filosófica sobre la naturaleza del peligro o sobre el significado de la palabra “peligro.” La razón principal de que en nuestro lenguaje exista una palabra como ‘peligro’ es advertir a la gente que es imposible que haya previsto todas las consecuencias de las acciones que se propone llevar a cabo. Es decir, los pragmatistas que entienden las creencias como hábitos de acción, creen que el uso de advertencia de la palabra “verdadero,” lejos de corresponder a la realidad, se utiliza para tener presente que otros sujetos, en circunstancias distintas, enfrentándose a audiencias futuras, podrían ser incapaces de justificar una creencia que hasta ese momento han justificado con éxito ante todas las

audiencias con las que se han encontrado. Ésta es la concepción pragmatista de la función de la palabra “verdadero.”

- 9 En lo que respecta a la pretensión de validez universal de las creencias, muchas pretensiones de validez son formuladas por personas que desearían defender sus afirmaciones ante audiencias distintas de aquella a la que se dirigen en ese momento. Sin embargo, “[...] decir ‘voy a tratar de defender esto frente a quien sea’ suele ser propio de una actitud encomiable. Pero decir ‘puedo defender esto con éxito frente a quien sea’ es una tontería” (Rorty 2000: 93). Con todo, llegar a distinguir entre si cierta afirmación depende del contexto o es universal, si cierta creencia es correcta contextualmente o universalmente, el favorecer una alternativa y no otra, no supone ninguna relevancia de orden práctico.
- 10 Habermas, por ejemplo, distingue entre aquellas prácticas de justificación orientadas a pretensiones de verdad, de aquellas otras prácticas reguladas meramente por convención social, como las prácticas morales y políticas (Habermas 1998: 77). Para Rorty las prácticas no trascienden, no se extienden fuera de la convención social, por el contrario, están reguladas por determinadas convenciones sociales, de modo que no hay distinción entre práctica social y algo que, como límite, esté más allá de esas prácticas.
- 11 Desde la postura que defendemos, es condición necesaria que las creencias sean justificadas en relación con la noción de verdad. Esta noción, correlativa a la noción de realidad, es la que permite que el mundo en el que vivimos y que construimos por medio de nuestras prácticas no sea un mundo que se constituye debido a decisiones arbitrarias, insuficientemente fundamentadas. Siguiendo esta idea, el justificar las creencias y contar con razones que las aseguren como verdaderas no significa acceder a Una Verdad Universal de El Mundo. La verdad de las creencias podría ser entendida como una verdad a la que se accede a través de las razones de los sujetos, entendida como una noción de verdad epistémica y social, no separable de los sujetos. En este sentido, las creencias serían verdaderas en nuestro mundo y accederíamos a la verdad de las proposiciones por medio de nuestras justificaciones, las cuales son falibles. Así, los sujetos de una comunidad pueden tener una garantía a la medida humana de que ciertas prácticas serán exitosas, en tanto que cuenten con razones suficientes que garanticen que sus acciones (al tratar de incidir en esa realidad, para actuar sobre ella y transformarla) acertarán la realidad. La importancia de la noción de verdad reside en que, a pesar de que las creencias de las diferentes comunidades epistémicas sean justificadas mediante razones que pueden ser corregibles en otro momento histórico y en relación con otra comunidad, podemos sin embargo, mantener la pretensión de que esas creencias lejos de ser arbitrarias, están restringidas por la realidad y son guías de acciones acertadas. Para esto requerimos una noción de verdad. Habría que reconocer, sin embargo, que hasta aquí no hemos más que ofrecido una explicación sobre los criterios de verdad y sobre las justificaciones. Aunque sostengamos con pragmatistas como James (2011) y Schiller que hay una realidad que se infiere, que restringe nuestras prácticas, mostrándonos cómo es que éstas son o no acertadas, no accedemos a esa realidad más que a través de nuestras justificaciones y marcos de presupuestos.
- 12 De acuerdo con Schiller, debe ser admitido que aquello que consideramos un hecho es porque ha pasado por un proceso de selección que aunque esté guiado por los resultados o consecuencias que confirmen o refuten una hipótesis, también hay que

aceptar que este proceso es en buena medida falible, pues depende de nuestro limitado alcance y perspectiva (Schiller 1907: 185-8).

2. Los mundos entendidos como construcciones onto-epistemológicas plurales.

- 13 Partimos de la idea de que los sujetos estructuran el mundo o realidad a través de alguno de los diversos marcos conceptuales. Los marcos conceptuales son construcciones sociales que se construyen, sostienen y transforman como resultado de las interacciones o prácticas sociales de los sujetos. Estos marcos son condiciones de posibilidad para tener conceptos, creencias, lenguaje, conocimientos, normas y valores que los seres humanos necesitamos y usamos en nuestra relación cognoscitiva con el mundo (Olivé 1999: 135-42). El mundo en el que los integrantes de una comunidad viven depende epistémica y ontológicamente de esos marcos. Por ello, los sujetos al estructurar la realidad desde marcos conceptuales distintos entienden el mundo de otra manera, pero también viven en otro mundo. Así, en un sentido fuerte, lo que cuenta como mundo para una comunidad de sujetos depende de su lenguaje, conocimientos, creencias, normas y valores. Desde esta posición, que se basa en el realismo interno de Hilary Putnam, los sujetos construyen, al menos parcialmente, el mundo en el que viven, y en este sentido, también son en algún grado responsables del mundo que constituyen en sus prácticas sociales.
- 14 Esta postura onto-epistemológica se opone a las tesis del realismo metafísico.
- 15 Siguiendo a Quintanilla (1994: 22), el realismo metafísico puede resumirse en las siguientes tesis:
1. El mundo o realidad existe independientemente de nuestros conceptos y representaciones.
 2. El mundo o realidad está compuesto de cosas, propiedades, y hechos que existen independientemente de que nosotros los conozcamos o no.
 3. Una representación correcta del mundo refiere a los objetos realmente existentes en él, y describe las propiedades que los objetos realmente tienen.
 4. Existe una representación completa del mundo tal como es en sí mismo.
- 16 La primera tesis debe ser admitida por cualquier postura realista. Esta tesis reconoce la existencia del mundo como real y no como una mera creación nuestra. La segunda tesis establece que ese mundo o realidad independiente de nuestros conceptos ya está estructurada por cosas, propiedades y hechos que *existen* independientemente de que los conozcamos o no. De modo que, como indica la tercera tesis, una representación correcta del mundo sería aquella que se corresponda con los objetos y hechos que existen en él. Según la cuarta tesis, consideremos que si el mundo es en sí mismo de una determinada manera, ya está estructurado por objetos y hechos (tesis 2) y si la verdad en tanto correspondencia implica una correlación entre las representaciones y los objetos y hechos (tesis 3), entonces de acuerdo con el realismo metafísico, sólo puede haber una manera correcta y completa de describir ese mundo. Es decir, si el mundo tiene una estructura ontológica determinada, sólo puede admitir una manera correcta de ser descrito en cada uno de sus aspectos. Según esta postura, si juntáramos todas las descripciones parciales verdaderas del mundo, tendríamos una descripción completa y verdadera del mismo (Pérez 1993).

- 17 Así, no tenemos buenas razones para suponer la existencia de una realidad ya estructurada, y tampoco tenemos buenas razones para suponer que podemos conocerla, de ahí que no compartamos la respuesta del realismo metafísico al problema del conocimiento del mundo. De ser así, habría que aceptar la existencia de un único marco conceptual correcto, ya determinado, lo que significaría admitir que hay un único conjunto de creencias, lenguaje, conocimientos, normas y valores válidos gracias a los cuales de manera universal y definitiva los seres humanos podríamos conocer el mundo o realidad.
- 18 El realismo interno no niega la existencia de una realidad independiente de nuestros marcos conceptuales y de los sujetos cognoscentes, pero sostiene que el mundo o realidad no existe independientemente de nuestros marcos conceptuales. Esta relación entre la realidad de los hechos contruidos a partir de los marcos conceptuales y la realidad desde la cual se construyen esos hechos, no debe entenderse como si se tratase de dos realidades. Los hechos y los objetos son reales porque son parte de la realidad independiente, se construyen *a partir* de ella, pero son contruidos como hechos y objetos en *relación con los marcos conceptuales*. La realidad pues, depende gnoseológicamente y ontológicamente de esos marcos.
- 19 Putnam dirá que “los ‘objetos’ no existen independientemente de los esquemas conceptuales” (Putnam 1981: 52). De ahí que el realismo interno sostenga que una postura realista no es incompatible con la relatividad conceptual, “se puede ser *al mismo tiempo* un realista y un relativista conceptual” (Putnam 1994: 61).
- 20 Por ejemplo, nos dice Putnam, pensemos en un mundo con 3 individuos: individuo 1, individuo 2 e individuo 3. La respuesta a la pregunta ¿cuántos objetos hay en ese mundo?, dependerá de lo que nosotros entendamos por “objeto.” Si entendemos por “objeto” lo mismo que por “individuo” diremos que hay 3 objetos. El objeto A constituido por el individuo 1, el objeto B constituido por el individuo 2, y el objeto C constituido por el individuo 3.
- 21 Sin embargo, si para entender lo que es un “objeto” consideramos la lógica mereológica, un “objeto” podría estar constituido no sólo por cada uno de los individuos, sino también por las sumas que puedan hacerse de ellos. Así, el objeto A puede estar constituido por el individuo 1, el objeto B por el individuo 2, el objeto C por el individuo 3, el objeto D por la suma del individuo 1 más el individuo 2, el objeto E por la suma del individuo 1 más el individuo 3, el objeto F por la suma del individuo 2 más el individuo 3 y finalmente, el objeto G puede estar constituido por la suma del individuo 1 más el individuo 2 más el individuo 3.
- Objeto A = 1
 Objeto B = 2
 Objeto C = 3
 Objeto D = 1+2
 Objeto E = 1+3
 Objeto F = 2+3
 Objeto G = 1+2+3
- 22 La diferencia consiste en cómo se entiende el concepto de “objeto.” En el mundo de la primera noción de “objeto” hay 3 objetos reales, y en el mundo de las sumas mereológicas hay 7 objetos también reales contruidos por 3 individuos relacionados de distintas maneras. De suerte que no hay nada independiente a los dos mundos que indique cuál es la respuesta correcta a la pregunta ‘¿cuántos objetos hay?’ “[...] las

nociones de objeto y existencia, tienen una multitud de diferentes usos [...]” (Putnam 1994: 63) y no una concepción absoluta.

- 23 El realismo interno sostiene que el planteamiento de conocer la realidad en sí misma carece de sentido porque, aunque “podemos y debemos insistir en que existen hechos que están allí para ser descubiertos y no meramente legislados por nosotros,” esto ocurre cuando ya estamos relacionados con la realidad por medio de un marco conceptual. “Hablar de ‘hechos’ sin antes especificar qué lenguaje se usará, es hablar de nada” (Putnam 1990: 175).
- 24 Para el realismo interno los hechos y los objetos se construyen en relación con la realidad según los intereses y marcos conceptuales con los que los sujetos estamos familiarizados. Como señala Olivé, al aplicarse un marco conceptual a la realidad se establece el contexto relevante con respecto al cual se construyen las propiedades de los hechos y objetos, esas propiedades serán las que determinen la identidad de éstos en tanto los objetos y hechos que son. Es en este sentido que los objetos y hechos sólo existen en relación con los marcos conceptuales. Si la realidad no fuera estructurada desde los marcos conceptuales que posibilitan la construcción de contextos relevantes, los hechos y objetos no podrían existir (Olivé 1996: 190). En palabras de Sosa: “[...] cuando afirmamos que hay ciertas cosas con ciertas propiedades, nuestra afirmación debe ser considerada como relativa a un lenguaje particular y a un esquema conceptual en particular” (Sosa 1992: 72).
- 25 En el ejemplo expuesto, los objetos A, B y C realmente existen en ese mundo, es decir, no son meras creaciones mentales de los sujetos. Desde esta perspectiva no hay pérdida de lo real, el marco conceptual adoptado es uno de los marcos posibles.
- 26 Desde el punto de vista del marco de las sumas mereológicas, los objetos también forman parte del mundo, pero esta vez entendidos de una manera diferente. Como en el caso anterior, los objetos existen realmente, pero existen en relación con la aplicación de un marco conceptual que tampoco puede ser considerado absoluto.
- 27 Así, la experiencia que tenemos con el mundo está constituida por nuestros conceptos, no podemos conocer nada del primero al margen de los segundos. El mundo existe para nosotros y lo entendemos sólo desde un punto de vista humano, “[...] los ‘objetos’ mismos son tanto construidos como descubiertos, tanto productos de nuestra invención conceptual como del factor ‘objetivo’ en la experiencia [...]” (Putnam 1981: 54). Donde el sentido de “objetivo” se entiende como construcción intersubjetiva, no como correspondencia metafísica.
- 28 Hemos dicho que los sujetos entienden al mundo desde alguno de los diversos marcos conceptuales posibles. Estos marcos no son absolutos, no son fijos ni establecidos definitivamente, sino que son construcciones humanas que pueden cambiar. Los sujetos de una comunidad no están irremediamente constreñidos a un único marco conceptual sino que los sujetos pueden llegar a relacionarse con otros marcos conceptuales y descubrir que, como afirma Sosa, “lo que existe en relación con un esquema conceptual puede no existir en relación con otro” (Sosa 1992: 79). Pero, volvemos a insistir, los marcos conceptuales no se construyen al margen del mundo, sino en relación con éste, lo que llamamos mundo es tanto un mundo conceptual como real constituido desde las prácticas sociales. De acuerdo con Goodman, cuya postura nos parece compatible con el realismo interno, sostenemos que “[...] no hablamos ahora

de múltiples alternativas posibles a un único mundo real, sino, por el contrario, de múltiples mundos reales [...]” (Goodman 1990: 18-9).

- 29 Dewey, por ejemplo, explica la tradición filosófica presente hasta sus días, la cual estaba comprometida al menos con dos tesis:
- a) Que el objeto de conocimiento es alguna forma de Ser último que precede a la investigación reflexiva, así como a toda función del conocer humano, y es independiente de ellos.
 - b) Que este ser antecedente posee entre las características que lo definen, propiedades que pueden ejercer autoridad en la formación de nuestros juicios de valor, es decir, rige sobre los fines o propósitos que han de guiar nuestra conducta.
- 30 Desde esta perspectiva, la filosofía tendría como finalidad el conocimiento de ese Ser y de sus propiedades esenciales. Esta concepción implicaría que el conocimiento humano se explica en el marco de una teoría “copia” de lo real, entendiendo por “real” aquello que existe de un modo estructurado, fijo e independiente de nuestra actividad de conocer. Una postura como ésta busca una certeza absoluta, lo que implica la separación entre teoría y práctica, entre conocimiento y acción. En la propuesta de Dewey, el esquema recién descrito es inaceptable, y se compromete, en cambio, con la tesis de vinculación entre conocimiento y acción.
- 31 Dewey se pregunta reiteradamente a lo largo de su obra, si está justificada la teoría según la cual el conocimiento es válido en la medida en que representa una descripción de existencias independientes de toda actividad humana, y también se pregunta si está justificada la doctrina que sostiene que los fines y valores son asimismo independientes de la actividad humana. Nuestro autor da una respuesta negativa y se afirma en una postura crítica a la tradición del modelo racionalista teleológico (Di Gregori y Durán 2004-2005: 2-5).

3. Verdad, realidad y justificación

- 32 La idea del plan cooperativo al que alude Dewey en relación con la dimensión política se vincula con la búsqueda de las condiciones en las que la Gran Sociedad se pueda transformar en la Gran Comunidad. Para este pensador, la idea de una comunidad se corresponde con fases reales de la vida asociada donde los sujetos se hallan libres de elementos restrictivos. Donde hay una actividad conjunta cuyas consecuencias se juzguen adecuadas por las personas que intervienen en ella, y donde la consecución de ese bien produzca un deseo firme y un esfuerzo decidido por conservarlo como un bien compartido, se puede hablar de una vida comunitaria y democrática (Dewey 2004b: 137-8).
- 33 Pero las prácticas agregadas de los sujetos no constituyen por sí mismas una comunidad, es necesario participar en la formulación y negociación de algunos fines que se compartan e interesen a los actores involucrados. La reflexión moral emergerá cuando los hombres confronten situaciones en las que los fines sean incompatibles, aunque estén moralmente justificados. Dicha reflexión moral será necesaria al momento de presentarse un conflicto entre valores que pueden ser igualmente buenos y no obstante, se debe tomar una decisión (Dewey y Tufts 1936: 173-5). Para Dewey, lo que debe prevalecer no son las razones de unos pocos que se impongan a los demás sino

el proceso activo de pensar, de ahí el carácter indispensable en su propuesta de la democratización del proceso educativo (Di Gregori y Durán 2004-2005: 5).

- 34 La experiencia en Dewey es entendida como acción orientada a la resolución de problemas y la elección entre las muchas alternativas posibles a tales problemas, obligan en el ámbito de lo colectivo a que las elecciones racionales requieran cooperación y acuerdo. Pues no hay nada exterior que predetermine universalmente las mejores elecciones. Cada hábito de respuesta y modos de resolver problemas, nos dicen las autoras, ha sido resultado de la práctica interesada de las generaciones antecesoras. El que no haya soluciones predeterminadas permite que podamos reformular y modificar nuestras posturas en vistas de resolver nuevas o antiguas problemáticas (Di Gregori y Durán 2004-2005: 13-4).
- 35 Siguiendo las ideas base del pluralismo ontoepistemológico que hemos esbozado, dado que los sujetos constituimos el mundo en el que vivimos desde algún marco conceptual, todos nuestros conceptos, incluidos el de verdad y el de realidad, así como nuestras normas morales y políticas, están ligados a algún marco conceptual. Desde esta postura, las nociones de “justificación” y “verdad” están estrechamente vinculadas. No es posible identificar línea alguna que divida la realidad de aquello que ponen los sujetos cognoscentes, porque la única realidad que existe para un sujeto cognoscente es la que ya constituye desde alguno de los posibles marcos conceptuales. Con respecto a la noción de verdad, a lo único que podemos acceder es a las mejores razones con las que se sustenta la verdad de una creencia, de tal suerte que, con lo que contamos es con nuestras justificaciones. En el mismo tenor, leemos en Dewey su posición respecto a la imbricación entre hechos y valores; la mentada dicotomía entre ambos es falsa. Por otro lado, Ruth Anna Putnam tiene razón al afirmar que los valores orientan nuestras razones para tomar decisiones, y en este sentido, guían nuestras acciones. Para poder decidir, los sujetos apelan a los valores que provee el marco existente (Putnam 1985: 199). Así pues, el pluralismo de valores no puede dejar de afectar y de guiar nuestras justificaciones en el ámbito epistemológico, ético y político.
- 36 La relevancia del pluralismo ontoepistemológico, así como de las respectivas posturas epistemológicas de James, Dewey y Rorty que presentamos, reside en que si bien la noción de verdad está estrechamente ligada a la de justificación, no por ello cualquier razón puede ser considerada como válida para sostener la verdad de una creencia o para sustentar lo acertado de una toma de decisión personal, colectiva o política, como de hecho sucede en el caso de las condiciones de la llamada “posverdad.” Un ejemplo lo tenemos en las razones subjetivas, insuficientemente justificadas, con base en las cuales una cantidad creciente de padres de familia, en el ámbito internacional y guiados por la idea de “posverdad,” ha decidido no vacunar a sus hijos contra el sarampión, paperas y rubeola (MMR) por sus siglas en Inglés. Las razones que aducen los padres de familia son que este coctel de vacunas para las enfermedades indicadas podría causar autismo a sus hijos.
- 37 Según Collins y Pinch lo que se sabe hasta el momento es que un número de niños comienza a mostrar síntomas de autismo en los primeros años de vida, aproximadamente en el tiempo en el que también es administrada la (MMR). En los casos en los que el autismo se presenta después de la vacunación, los padres sostienen con base en razones subjetivas, que hay una secuencia temporal como si fuera la causa del autismo en los niños. En cambio, el hecho comprobado y bien documentado con base en buenas razones de que si sus hijos enfermaran de sarampión podrían tener daño

cerebral, carece de fuerza. La primera información de una relación entre autismo y vacunación nos dice Collins, proviene de las preocupaciones de los padres de familia antes que de investigación científica reportada (Collins & Pinch 2005: 181-2).

- 38 El hecho de que en la actualidad haya un número creciente de casos de sarampión en diferentes países que habían sido declarados libres de esta enfermedad, muestra que los padres de familia tienen por verdaderas creencias falsas que les guían a tomar decisiones erradas. Los padres de familia ignoran las razones válidas en las que se sustenta un conocimiento y optan por justificar sus creencias desde los motivos más personales.
- 39 La postura pluralista que discutimos aquí en relación con una noción de verdad estrechamente relacionada con una noción de justificación, adquiere importancia porque muestra que no toda justificación es válida, se requiere cuestionar, revisar, volver a indagar si las razones que sustentan nuestras creencias, así como las acciones que éstas guían, son acertadas y no propician unas condiciones de daño. La formulación de nuestras hipótesis y el ponerlas a prueba, confrontándolas con otras hipótesis relacionadas con otros marcos conceptuales, tendría como finalidad investigar si se trata de hipótesis que comprueban ser acertadas o no. Esta manera de proceder nos permite contrastar y poner a prueba alternativas diferentes a nuestras prácticas sociales y creencias; en la experiencia se verá si son acertadas o se refutan, pero si se refutan, como es el caso de la creencia de que la aplicación de la (MMR) causa autismo, debe reconocerse que se invalida dicha justificación.
- 40 En esta línea, retomamos a Rorty quien subraya que si hay algo distintivo en el pragmatismo, es que apoya la noción de un futuro humano mejor. De acuerdo con Dewey, en su texto sobre la influencia del Darwinismo en la filosofía, el principio de selección natural y, en términos generales, la lógica darwiniana, genera cambios como el paso de la idea de un propósito fijo relacionado con una esencia hacia la idea de que hay cambios específicos relacionados con propósitos concretos. También se pasa de la idea de una inteligencia que da forma a las cosas de una vez y para siempre, a la posición de que hay inteligencias particulares de objetos que siguen transformándose. Hay un cambio desde la idea de una última meta o de una causa trascendente que nos conduce a “El Bien,” hacia avances directos y concretos relacionados con acciones justas. Con el Darwinismo se deja de creer en la validez de ciertas preguntas y, lejos de resolverlas o responderlas, las superamos para formular otras preguntas en relación con nuevos y diferentes contextos que están en transformación continua (Dewey 1910: 1-19). Siguiendo a Dewey y a Darwin, Rorty señala que lo único que justifica una mutación, biológica o cultural, es su contribución a la existencia, en algún lugar del futuro, de una especie más compleja e interesante. La justificación es siempre una justificación desde el punto de vista de los sobrevivientes (Rorty 1997: 13-4). En el ejemplo señalado sobre la aplicación de vacunas, la mejor justificación estaría ofreciendo una garantía a la medida humana de asegurar las mejores condiciones posibles de salud a los menores.
- 41 Los pragmatistas no creen que haya una manera en la que las cosas realmente son, al margen de nuestras justificaciones. Por ello, buscan reemplazar la distinción apariencia-realidad por una distinción que podríamos interpretar como que hay justificaciones menos útiles y justificaciones más útiles; útiles para crear un futuro mejor (Rorty 1997: 14-5, 18).

42 Donald Davidson por ejemplo, relaciona la noción de verdad con la posibilidad de comunicación entre hablantes e intérpretes. Una base común para interpretar exitosamente nuestros respectivos mensajes implicaría que hay una base conmensurable que se infiere a partir de las intersecciones entre los diferentes mundos y de las que somos testigos justamente cuando logramos interpretar acertadamente a nuestro interlocutor, esto es, cuando efectivamente podemos comunicarnos. Queda pendiente si podríamos afirmar, o no, que es posible la comunicación entre personas de diferentes esquemas conceptuales con todo y que no podamos comprobar un esquema neutral o un lenguaje neutral. Tampoco se ha podido comprobar que haya un esquema único o una ontología común que compartamos y a la que accedamos al margen de cualquier esquema conceptual. Para Davidson la verdad de las oraciones sigue siendo relativa al lenguaje, y esto es todo lo objetivo que podemos ser. Al renunciar al dualismo de esquema y mundo no renunciamos al mundo, sino que restablecemos el contacto inmediato con los objetos familiares en relación con los cuales nuestras oraciones y opiniones son verdaderas o falsas (Davidson 1984). La idea de que el contenido proposicional de las oraciones de observación se determina mediante lo que es común y sobresaliente al hablante y al intérprete tiene consecuencias importantes para la relación entre el pensamiento y el significado, y para nuestra concepción del papel de la verdad.

Porque no sólo asegura que hay un nivel básico en el cual los hablantes comparten sus concepciones, sino que también que lo que ellos comparten es una visión ampliamente correcta de un mundo común. La fuente última tanto de la objetividad como de la comunicación es el triángulo que, al relacionar hablante, intérprete, y el mundo, determina los contenidos del pensamiento y del habla. Dada esta fuente, no hay lugar para un concepto relativizado de verdad. (Davidson 1997: 85)

43 Efectivamente, una proposición que es verdadera en relación con un lenguaje, desde un marco conceptual, no puede ser el caso de que pudiendo formularse esa misma proposición en relación con otro marco conceptual, sea falsa. Desde la postura del pluralismo ontoepistemológico expuesto, si bien las razones con las que se sustenta la verdad de una creencia son relativas a un marco conceptual, esto no significa que sean arbitrarias, no cualquier razón que se aduzca y que se considere adecuada es una razón válida.

44 Uno de los esfuerzos que hicieron James y Dewey fue buscar la manera de reemplazar la tarea de justificar la costumbre y la tradición pasadas que apelaban a una estructura inalterable, por la tarea de reemplazar un presente insatisfactorio por un futuro más satisfactorio. En muchas ocasiones un criterio para validar las razones que sustentan una creencia es su coherencia con las creencias que la anteceden. Sin embargo, esto sólo muestra la firme adhesión a ciertas creencias, a un marco conceptual específico y a una forma estipulada de justificar la verdad de esas creencias, pero no dice nada más.

45 Así, siguiendo a Dewey, deberíamos dejar de lado la idea de que el conocimiento es el intento de *representar* la realidad, y en cambio, habría que visualizar la indagación como un modo de usar la realidad. La relación entre nuestras alegaciones de la verdad y el resto del mundo es causal más que representacional, es causa de que sostengamos creencias (Rorty 1997: 21-9).

46 No hay manera de mostrar que cuanto mejor justificada esté una creencia es más verosímil que sea verdadera. Una creencia justificada con base en razones válidas lo que muestra es que en ese momento histórico no hay razón pública y accesible que la contravenga, pero eso no elimina la posibilidad de que en un futuro, frente a otras

audiencias, se encuentren razones que socaven la validez de la creencia, y con ello, se muestre que tal creencia no estaba suficientemente justificada aunque así se creyera durante mucho tiempo atrás. Es decir, una creencia puede considerarse verdadera porque hasta el presente no hay razones que contravengan su correcta justificación, pero dado que no hay garantía absoluta de que en un futuro esas razones no serían rechazadas como buenas razones, no podemos afirmar que una creencia esté en definitiva anclada a la verdad o a la realidad independientemente de nuestras razones. No hay conexión entre verdad y justificación, confundimos el hecho de que al estar mejor justificadas las creencias sean verdaderas, pero no podemos hacer una afirmación como ésta, pues nos comprometería a aceptar que hay algo externo a nuestras justificaciones llamado “La Verdad” y la pregunta que se sigue es ¿Cómo sabemos que existe algo llamado “Verdad” si no podemos tener la perspectiva del Ojo de Dios?

- 47 Puede parecer extraño sostener que no hay conexión entre nuestras justificaciones y la verdad, el problema es que, como indica Rorty, somos propensos a considerar que la verdad es la meta de la indagación.

La indagación y la justificación son actividades en las que nosotros, usuarios del lenguaje, no podemos menos que involucrarnos. No necesitamos una meta denominada “verdad” que nos ayude a eso, así como los órganos digestivos no necesitan una meta llamada “salud” para comenzar a funcionar. Los usuarios del lenguaje no pueden menos que justificar sus creencias y deseos, unos con otros, tal como los estómagos no pueden evitar procesar la comida. La agenda de nuestros órganos digestivos es establecida por los alimentos específicos que procesan y la agenda de nuestra actividad justificatoria es proporcionada por las distintas creencias y los diferentes deseos que encontramos en los demás usuarios del lenguaje. Sólo habría una meta “superior” de la indagación, llamada “verdad,” si hubiera una cosa tal como la justificación *última*, una justificación ante Dios o ante el tribunal de la razón, en tanto distintos de cualquier audiencia meramente finita. (Rorty 1997: 35)

- 48 No puede haber un tribunal así, tendría que tomar en cuenta *todas* las alternativas a una creencia dada y conocer *todo* lo que fuera pertinente para criticar cada una de esas alternativas. Ese tribunal tendría que tener una perspectiva (metafísica) que tomara en cuenta todos los rasgos del mundo en tanto descrito por un conjunto dado de términos, además de cada rasgo desde toda descripción posible.
- 49 Un miembro pleno de su comunidad, nos dice Rorty, estará en condiciones de producir una justificación para la mayoría de sus creencias, una justificación que satisfaga los requerimientos de la comunidad.

No hay, sin embargo, ninguna razón para pensar que las creencias en mejores condiciones de justificarse sean las más probablemente verdaderas, ni que las menos justificadas sean las que con más probabilidad resulten falsas. El hecho de que la mayoría de las creencias sean justificadas, como el hecho de que la mayoría de las creencias sean verdaderas, es una mera consecuencia más del carácter holista de la adscripción de creencias. (Rorty 1997: 34)

- 50 James nos recuerda que la ciencia y la religión son ambas vías respetables para adquirir creencias respetables, no obstante tratarse de creencias que son buenas para propósitos muy diferentes. Lo que existe es sencillamente, el proceso de justificar las creencias ante una audiencia. Y ninguna audiencia está más próxima a la naturaleza ni es mejor representante que cualquier otra de algún ideal ahistórico de la racionalidad (James

2003). Peirce nos diría que las creencias son reglas para la acción más que intentos para representar la realidad (Rorty 1997: 32).

- 51 La verdad no es algo hacia lo que nos dirigimos, ni es algo a lo que nos aproximamos más cuanto más justificación tenemos, no es nuestra meta. No hay nada que afirmar sobre los límites del conocimiento ni nada que decir respecto a la conexión entre justificación y verdad, el único sentido que tiene contrastar lo verdadero con lo meramente justificado es contrastar un futuro posible con un presente actual, nuestros fines en perspectiva en relación con nuestras condiciones de existencia entendidas como medios. Más específicamente, contrastamos lo verdadero con lo justificado no en lo general sino para contrastar una audiencia actual, con sus requerimientos actuales de justificación, y una esperada audiencia futura (Rorty 1997: 36-7).
- 52 La relevancia práctica de nuestras justificaciones desempeña aquí un papel fundamental, James nos habla de que las verdades de las creencias son relevantes porque tienen consecuencias prácticas. La verdad significa su acuerdo con la realidad, así como la falsedad significa su desacuerdo con ella; estar de acuerdo con la realidad significa establecer un contacto funcional que nos permita relacionarnos con ella mejor que si estuviéramos en desacuerdo, a saber, que nuestras creencias y acciones lejos de generar obstáculos fluyen (James 2011: 9-10). En el caso de las vacunas, hasta ahora se puede afirmar que con base en razones válidas funcionan, aciertan según lo previsto. La “funcionalidad” con la que deben contar las creencias para ser verdaderas significa las funcionalidades concretas, físicas o intelectuales, actuales o posibles, que puedan establecer unas con otras en una experiencia concreta (James 2011: 15). El carácter exitoso, acertado o satisfactorio de las acciones y las buenas razones que las justifican es provisional, ninguna de éstas puede funcionar o ser completamente satisfactoria en todos los contextos y en cualquier tiempo histórico. Dado que nadie conoce el futuro, nadie sabe qué creencias permanecerán o no justificadas, no hay nada ahistórico que decir acerca del conocimiento o de la verdad (en general) (Rorty 1997: 40).
- 53 Según Dewey, cuando pensamos en el conocimiento y la verdad, el punto más importante que podemos recoger de Darwin es que no hay un orden natural de las razones para justificar una creencia, como no hay un orden natural para la evolución biológica. Sólo podría existir un orden tal si todas las alternativas futuras ya estuvieran presentes. Una posición como ésta querría reconocer los límites de la posibilidad, es decir, de la investigación posible, del conocimiento posible, de las formas posibles de vida humana (Dewey 1910: 1-19). La evolución cultural, la evolución de las demandas de justificación, no se produce de acuerdo con leyes, así como no se produce de acuerdo con leyes la evolución biológica, es decir, la evolución de las demandas de espacio vital. Ambas se producen por una secuencia fortuita de acontecimientos, algunos afortunados y otros no (Rorty 1997: 40-1).

Conclusiones

- 54 En este trabajo hemos sostenido como idea principal el hecho de que no es posible ningún conocimiento al margen de algún marco conceptual y que las razones en que se base, por válidas que sean, no nos permiten reconocer la verdad como distinta de la justificación.

- 55 Por otro lado, la idea de realidad como restricción sigue siendo bien acogida por el llamado realismo interno de Putnam, por pragmatistas como Dewey y James y por el pluralismo onto-epistemológico expuesto. Desde la postura epistemológica defendida, afirmamos que dado que sólo contamos con nuestras justificaciones y no hay manera de que podamos acceder a la verdad o a la realidad al margen de ellas, la formulación de nuestras hipótesis y el ponerlas a prueba, confrontándolas con otras hipótesis relacionadas con otros marcos conceptuales, no debería tener como fin comprobar una verdad o restricción de la realidad, sino más bien mostrar que se trata de una hipótesis que comprueba ser útil, acertada, que funciona, en unas condiciones de existencia específicas. Esta posición nos permite dejar de preocuparnos por la verdad o la realidad en un sentido metafísico, y en su lugar, confrontar nuestra postura con alternativas diferentes a nuestras prácticas sociales, justificaciones y creencias; en la experiencia se verá si son acertadas o se refutan. Hemos ejemplificado con el caso de un número cada vez mayor de padres de familia que opta por no vacunar a sus hijos; una decisión errada, sustentada en razones insuficientes, como suele ocurrir con posturas como la llamada “posverdad,” causando con ello el aumento sistemático de casos en el mundo de personas enfermas de sarampión.
- 56 Wittgenstein explica que lo que hace a una proposición verdadera y que la prueba de la misma sea vinculante depende de lo que hacemos, de cómo la usamos. En palabras de Wittgenstein: “procedo a través de la prueba, y luego acepto su resultado. – Quiero decir: esto es simplemente lo que *hacemos*” (Wittgenstein 1967: 20 §63). A este respecto Pitkin explica que la prueba debe ser tal que tiene que mostrarnos que algo es así, pero también cómo es así, (Pitkin 1984: 346) “no aceptamos el resultado de una prueba porque resulte una vez, o porque resulte a menudo. Pero vemos en la prueba la razón de decir que esto *tiene que ser el resultado*” (Wittgenstein 1967: 81 §39).
- 57 Las razones que muestran que una práctica social es aceptable muestran también el cómo es aceptable (Wittgenstein 1967: 22 §75). En este sentido, decimos que las buenas razones pueden considerarse como una guía a la medida humana que garantiza a los sujetos que sus prácticas sociales no son arbitrarias.
- 58 Si aceptamos que las nociones de realidad y de verdad están estrechamente ligadas a la noción de justificación, podríamos considerar que, como explica Pitkin, allí donde algo no puede ser modificado con base en buenas razones, se hace sospechoso el continuo deseo de cambio (Pitkin 1984: 487). Podríamos decir que la justificación intersubjetiva de las diversas creencias, normas, políticas y toma de decisiones, basada en buenas razones relevantes en algún contexto, hace posible y exige de nosotros que consideremos con seriedad a otras personas, así como el daño que podríamos causar si tomamos decisiones equivocadas y arbitrarias, sustentadas únicamente en razones sobre las que se ha indagado poco; que escuchemos realmente, que lleguemos a ser capaces de comprender desde la perspectiva del otro. También hace posible, y nos exige, que nos tomemos seriamente a nosotros mismos. Esto no significa que no podamos cambiar en algún grado nuestros conceptos, nuestras prácticas o nuestras instituciones, significa que no todo cambio es posible. Es decir, no todo cambio está suficientemente justificado, donde la validación de una afirmación dependerá de sus consecuencias, Schiller (1907:183) y deberá considerarse en relación con los motivos razonables que influyen en la deliberación.

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RESÚMENES

In this article I argue that the notion of truth is so closely linked to the notion of justification that it is not possible to access the truth, even with the best reasons upon which a justification is supported.

I'll show that the notions of truth and reality can only be inferred from our experience of the world, in which our social practices can be verified or disproved, and if our hypotheses are accepted or refuted. I maintain that we can only access realities which we constitute in relation to one of several possible conceptual frameworks. These conceptual frameworks are not transcendental entities nor are they established definitively, they are social constructs. This means that the conceptual frameworks are constituted by the social practices of the subjects. We understand that social practices are institutionalized groups of actions undertaken by members of a community and directed toward the consecution of an end. These actions presuppose that the beliefs, norms and values are shared by members of an epistemic community. Olivé (1999: 135-42).

This article begins by presenting Rorty's counter-proposal for the notion of truth, in relation to which I put forward the principal theses of onto-epistemological pluralism. Subsequently, I develop the idea of inter-subjective contextual justification and I show that this posture, although it does depend on specific conditions for justification, is not arbitrary.

I demonstrate the relevance of onto-epistemological pluralism and the need to adequately substantiate our beliefs and decision making, by presenting the case of parents guided by a notion of 'post-truth' who decide not to vaccinate their children against measles based on insufficiently justified subjective reasons. A fact that is having serious harmful consequences to health, particularly among young children.

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Putnam e la critica dell'epistemologia contemporanea: spunti pragmatisti

Antonio Lizzadri

NOTE DELL'AUTORE

Desidero ringraziare i revisori anonimi di questo articolo, le cui osservazioni e indicazioni hanno costituito un'occasione proficua di confronto e approfondimento, che mi hanno consentito di migliorare il testo.

1. Introduzione

Tra il pragmatismo e la filosofia di Hilary Putnam sussiste una proficua complementarità teoretica: le rispettive categorie concettuali costituiscono, infatti, un privilegiato e reciproco punto d'osservazione. D'altra parte, Putnam non è stato un mero fruitore passeggero e passivo della tradizione pragmatista, ma ha contribuito a riattualizzarne le istanze sin dagli inizi del suo percorso intellettuale, configurando così la peculiarità delle sue stesse posizioni, sebbene non desiderasse essere etichettato come neopragmatista e, in generale, con nessun tipo di "ismo."¹

Il proposito di esplorare con più attenzione gli aspetti pragmatisti del pensiero di Putnam sembra dunque avere almeno due motivi di interesse storico-teoretico: innanzitutto, la possibilità di recuperare un criterio interpretativo unitario per l'intricata rete di questioni e soluzioni proposte dall'autore nell'arco di molti decenni – laddove l'avvicinamento al pragmatismo, al contrario, viene solitamente considerato un elemento di rottura e discontinuità – nonché la possibilità di rileggere in maniera sintetica l'evoluzione dell'epistemologia contemporanea. Putnam, infatti, è stato opportunamente definito come "la storia della filosofia recente in compendio," (Passmore 1988: 87) in quanto si è confrontato con le principali tradizioni

epistemologiche, senza limitarsi a coltivarne il ricordo, ma impegnandosi a operare una sintesi, in grado di far fronte in modo attuale alla complessità del dibattito.

In primo luogo, occorre allora evidenziare che l'assunzione matura e consapevole del pragmatismo a partire da *Realism and Reason*² e *Reason, Truth, and History*³ era stata a ben vedere preparata già nelle ricerche precedenti: i *Philosophical Papers* del 1975, infatti, lungi dal rappresentare l'esito e il compimento della sua formazione neopositivista, rappresentano piuttosto una critica sistematica di quella visione riduzionista e scienziatista della realtà,⁴ proprio in nome delle tesi più significative del pragmatismo stesso, tra cui il primato della prassi come criterio di verità della ricerca scientifica e filosofica, il primato del linguaggio ordinario sui linguaggi formali, il rilievo epistemologico della soggettività e dell'esperienza vissuta, l'unità di metodologia e scienze umane, ecc.

Verificheremo l'effettività di tali istanze del pragmatismo nella critica di Putnam ai principali paradigmi epistemologici del secolo scorso. Presenteremo innanzitutto la critica al verificazionismo neopositivista, la cui distinzione tra linguaggio osservativo e linguaggio teorico risulterà inadeguata a fronte del riconoscimento del primato del linguaggio ordinario rispetto ai linguaggi formali. Una maggior attenzione alla prassi risulterà decisiva anche per avvedersi dei limiti del falsificazionismo popperiano, che, assolutizzando l'aspetto predittivo delle teorie scientifiche – peraltro, allo stesso modo del neopositivismo – non riconosce adeguatamente l'importanza del successo esplicativo ed applicativo quale virtù epistemica essenziale al di là del controllo. L'apertura della riflessione epistemologica a fattori extra-teorici come l'ordinaria prassi linguistica e il successo pratico consentirà, infine, di riconoscere piuttosto le affinità di Putnam con gli orientamenti dell'epistemologia post-popperiana. D'altra parte, sarà nuovamente la sensibilità pragmatista del filosofo di Harvard a fare la differenza: vedremo come, mentre in Kuhn il rifiuto della tradizionale metodologia della scienza sfoci in una concezione del sapere relativistica, in Putnam, l'attenzione alla pratica scientifica consenta di continuare ad avere fiducia nel progresso, sebbene non vi sia alcuna giustificazione apodittica del ragionamento induttivo.

2. Critica del verificazionismo

2.1 Verificazionismo e solipsismo

La paradossalità del verificazionismo secondo Putnam dovrebbe emergere dalla semplice constatazione che esso presuppone l'assunto fondamentale della concezione metafisica che si propone di contrastare. Putnam riconosce infatti nel verificazionismo una certa "tendenza idealistica" poiché:

in base ad una spiegazione verificazionista [...] l'unica nozione effettiva di correttezza disponibile per chi pensa è quella di *essere verificato*. Se questa è la sola nozione di correttezza che si ritiene la mia "mente/cervello" sia capace di impiegare, e se l'abilità di dire che un'affermazione è verificata è la sola abilità che soddisfa il requisito [...] che la mia capacità di distinguere ciò che è vero da ciò che è falso possa "manifestarsi" a livello comportamentale, allora il mio discorso sugli altri è intellegibile solo per *me*, come mezzo per fare affermazioni che sono o saranno verificate dalle *mie* esperienze. (Putnam 2012; trad. it. 2012: 105)⁵

In altri termini, Putnam sostiene che sia l'idealismo sia il verificazionismo affondino le proprie radici in un medesimo *solipsismo metodologico*: sebbene l'assolutizzazione dei

dati sensoriali sembrerebbe collocare il verificazionismo in una cornice nettamente realista, la radicale soggettività della percezione precluderebbe, a ben vedere, la possibilità di un confronto intersoggettivo degli stessi dati sensoriali, i quali, in definitiva, potrebbero essere verificati solo dal soggetto che li percepisce. D'altra parte, Putnam osserva come si ripeta la vicenda della filosofia moderna, in cui l'assunzione della *way of ideas* sia nella tradizione empirista sia in quella razionalista era sfociata nell'identificazione berkeleiana tra *esse* e *percipi*:

Le ragioni dell'insuccesso dell'idealismo berkeleiano sono le stesse dell'insuccesso del positivismo machiano: Mach dichiara che la sua costruzione del mondo a partire dalle sensazioni ("*Empfindungen*") è compatibile con il parlare ordinario e scientifico sugli oggetti, ma non dà alcuna dimostrazione di ciò. (Putnam 1973; trad. it. 2004: 231)

E a dire il vero tanto l'idealista quanto l'empirista *non possono* dimostrare che le loro teorie parlino del mondo, poiché adottando un metodo introspettivo rimangono rinchiusi nel circolo delle proprie "idee," ovvero delle proprie "esperienze":

Oggi il neopositivista non è autorizzato ad accettare la teoria e la pratica scientifica più di quanto lo fosse Berkeley: non vi è nulla nella sua vicenda che lo porti a dover pensare o che la teoria scientifica è vera o che la pratica scientifica tende a scoprire la verità. In un certo senso ciò è immediato. Il positivista non afferma che la teoria scientifica è "vera," in nessun senso transteorico di "vero"; le sole nozioni transteoriche che egli possiede sono del tipo "dà luogo a una predizione riuscita" e "è semplice." Al pari del seguace di Berkeley, egli deve ripiegare sulla posizione che la teoria scientifica è *utile* piuttosto che vera. (*Ibid.*: 233)

Tuttavia, Putnam riconosce quantomeno all'interno della tradizione neoempirista un nobile tentativo di superamento dell'introspezione quale fondamento della conoscenza. Rudolf Carnap, infatti, nella *Logische Syntax der Sprach*⁶ avrebbe cercato di superare le nozioni introspettive di oggetto materiale tipiche dell'empirismo come "fasci di sensazioni" (Mill) o come "costrutti logici a partire dai dati sensoriali" (Ayer), prendendo in considerazione le relazioni teoriche tra sistemi di *enunciati*.

Carnap, nel pieno spirito del nuovo empirismo, ha intuito come lo studio del linguaggio avrebbe potuto offrire un punto d'appoggio per sottrarsi allo sprofondamento soggettivistico nel "pantano dell'idealismo,"⁷ cercando, più precisamente, di dimostrare come per ogni *enunciato* introspettivo di senso comune su oggetti materiali vi sarebbe stato un *enunciato* corrispondente su dati sensoriali. Un linguaggio di dati sensoriali avrebbe infatti eliminato le nozioni metafisiche di cui è contaminato il discorso ordinario sugli oggetti materiali (comunemente intesi appunto come *cose*, *res*), offrendo peraltro in questo modo un fondamento linguistico inconcusso per la costruzione delle teorie scientifiche.⁸

Con Carnap – sostiene Putnam – si assiste dunque al passaggio dal "fenomenismo ontologico" dell'empirismo tradizionale, nel quale la tesi secondo cui gli oggetti materiali sono fasci di sensazioni si riduce ad una *petitio principii*, essendo – come abbiamo visto – indimostrabile a motivo del solipsismo metodologico presupposto, al "fenomenismo linguistico," che si è invece impegnato a tradurre gli "enunciati cosali" in enunciati di dati sensoriali mediante una traduzione *T* che ne conservasse il valore di verità e il grado di conferma:

È così nata una nuova disciplina, che ha preso il nome di *logica della scienza*. Ed è così morto il fenomenismo! Infatti, benché Carnap (e molti altri filosofi) si siano mossi pieni di fiducia, trent'anni di ricerca nel campo della logica hanno stabilito che non esiste nessuna applicazione *T* con le proprietà desiderate (nessuno sa come

dimostrare una cosa del genere senza considerare tutte le applicazioni possibili di T , il che è evidentemente irrealizzabile), ma che tutti i tentativi di costruire una tale applicazione si risolvono in completi fallimenti. (Putnam 1975; trad. it. 2004: 40)⁹

Fallito il progetto di traduzione fenomenista, secondo Putnam i neopositivisti avrebbero tentato due strade alternative: l'impossibilità di *completare* l'interpretazione del linguaggio scientifico attraverso un linguaggio di dati sensoriali comportò innanzitutto la necessità di considerare le teorie scientifiche solo come *parzialmente* interpretate, e in secondo luogo, la necessità di evitare qualsiasi compromissione ontologica nei confronti dei termini teorici restii alla traduzione, rinunciando definitivamente al valore semantico delle teorie scientifiche, ridotte così a puri e semplici calcoli di predizioni precise.¹⁰ Sfortunatamente però, secondo Putnam, anche la concezione delle teorie scientifiche come *calcoli parzialmente interpretati* non è sostenibile.

2.2 L'interpretazione parziale e la dicotomia osservativo-teorico

Quando si afferma che le teorie scientifiche sono "parzialmente interpretate," si intende dire che solo i termini osservativi sono interpretati direttamente, mentre i termini teorici riceverebbero un significato come conseguenza indiretta della prima interpretazione auto-evidente. Il concetto di interpretazione parziale presuppone dunque che il vocabolario non logico della scienza si divida in due parti: da un lato vi sarebbero i termini osservativi che si applicano agli oggetti pubblicamente osservabili e alle loro qualità (ad esempio "rosso," "essere in contatto," "bacchetta," ecc.) dall'altro, i termini teorici corrispondenti invece ad oggetti e qualità non osservabili ("elettrone," "carica," "sogno," "gene," ecc.).¹¹

La precarietà della distinzione è già inscritta nella "storia piuttosto curiosa" della stessa nozione di interpretazione parziale: secondo Putnam, infatti, la nozione sarebbe avvolta da un "alone tecnico"¹² che indurrebbe a considerarne la definizione troppo nota all'interno della logica matematica perché ci sia bisogno di ripeterla:

Purtroppo le cose non stanno così! Carnap, infatti, introdusse il termine, senza definirlo, in un paragrafo della sua monografia (Carnap, 1939). Egli *asserì*, senza dare spiegazioni, che interpretare i termini osservativi di un calcolo significa automaticamente "interpretare in modo parziale" i primitivi teorici. Il termine è stato successivamente usato da Carnap e da altri autori, ma senza ulteriori spiegazioni. (*Ibid.*: 243)¹³

È allora lo stesso Putnam che si propone di definire esplicitamente la nozione, esplorando se e in che modo sia possibile che l'interpretazione dei termini osservativi di un calcolo costituisca *ipso facto* l'interpretazione dei primitivi teorici.

Innanzitutto, è opportuno premettere che, per un verificazionista come Carnap, l'interpretazione di un termine osservativo P è immediata poiché consiste semplicemente nello specificare una procedura di verifica e refutazione dell'appartenenza alla sua estensione:

Se \bar{a} è una costante individuale che designa un individuo a [...], ed è possibile verificare $P(\bar{a})$, allora l'individuo a è nell'estensione del termine P ; se $P(\bar{a})$ è refutabile allora a è nell'estensione di $\sim P$, la negazione di P ; e se le procedure di controllo esistenti non si applicano ad a (ad esempio se a non soddisfa le condizioni antecedenti specificate nelle procedure di controllo), allora è *indefinito* se a è nell'estensione di P oppure no. (Putnam 1962; trad. it. 1993: 242)

A questo punto, per il verificazionista tale nozione può essere estesa in modo immediato all'interpretazione dei primitivi teorici di una teoria nel senso che

se dai postulati e dalle definizioni della teoria e/o dall'insieme di tutti gli enunciati osservativi veri segue $P(\bar{a})$, allora a è nell'estensione di P ; se dai postulati e dalle definizioni della teoria e/o dall'insieme di tutti gli enunciati osservativi veri segue $\sim P(\bar{a})$, allora a è nell'estensione di $\sim P$; in tutti gli altri casi $P(\bar{a})$ ha un valore di verità *indefinito*. (*Ibid.*: 243-4)

Ma è davvero possibile operare una simile estensione con tanta disinvoltura? I limiti connessi all'identificazione del significato dei termini teorici con il metodo di verifica dei termini osservativi diventano palesi non appena si riflette adeguatamente sui casi di *indefinitezza*:

in effetti, le nostre condizioni di controllo [...] non possono applicarsi a piccole regioni X situate, ad esempio, all'interno del Sole (o all'interno di molti corpi in molti istanti). Otteniamo pertanto il seguente risultato anomalo: l'affermazione che ci sono atomi di elio nel Sole è vera, ma non è né vero né falso che uno di essi si trovi all'interno di una data piccola sotto-regione X ! Fatti analoghi si verificherebbero rispetto ad asserzioni teoriche che riguardano l'immensamente grande; ad esempio, può non essere "né vero né falso" che la curvatura media dello spazio è positiva, o che l'universo è finito. E ancora una volta scoperte scientifiche del tutto comuni saranno costantemente rappresentate come "stipulazioni linguistiche," "estensioni di significato," e così via. (*Ibid.*: 246)

Putnam ritiene poi possibile rafforzare il risultato appena conseguito, dimostrando come sia inadeguato definire il significato a partire da procedure di verifica anche per gli stessi termini osservativi. A tal fine, vengono presi in considerazione i "termini disposizionali puri" che nella definizione carnapiana di *Testability and Meaning*¹⁴ corrispondono a quei termini introdotti mediante "enunciati di riduzione". Stando alla concezione verificazionista,

In questo caso l'individuo a è o nell'estensione di P o nell'estensione di $\sim P$, purché l'antecedente di almeno un enunciato di riduzione "che introduce" il termine P sia vero di a , e altrimenti è *indefinito*, che $P(\bar{a})$ sia vera o no. (Putnam 1962; trad. it. 1993: 243)

Per chiarire la questione, Putnam presenta il noto esempio del termine "solubile," supponendo per semplicità che esista un solo test di verifica della solubilità: immergere l'oggetto in acqua. Sulla base della precedente definizione, il verificazionista arriverebbe dunque a sostenere che chiamare solubile un oggetto – supponiamo ora delle zollette di zucchero – che non è mai stato immerso in acqua abbia un valore di verità del tutto indefinito.

Ma come conciliare questa tesi con l'uso ordinario del termine solubile, che si estende ovviamente anche a tutte le zollette che non sono mai state immerse in acqua?

Ciò si deve definire una "stipulazione linguistica." In altre parole, secondo questa concezione, noi *diamo* al termine "solubile" il nuovo significato di "solubile-nel-vecchio-senso-di-zucchero"; e ciò che comunemente diciamo essere una evidenza che le zollette di zucchero non immerse sono solubili, dovrebbe invece essere inteso come una evidenza che il nuovo significato del termine "solubile" è compatibile con l'originale "enunciato di riduzione bilaterale." (*Ibid.*: 245)

Oltre a tale ricostruzione, dalla quale Putnam riesce già a far emergere bene il carattere macchinoso ed estremamente contro-intuitivo della posizione verificazionista, è possibile individuare al suo interno due limiti ben precisi: da un lato, nel passaggio dall'uso ordinario del termine solubile alla definizione rigorosa, in realtà, non si

assisterebbe a nessun cambiamento o estensione di significato, dall'altro, non vi sarebbe alcun motivo per rifiutare l'applicazione ordinaria:

Ordinariamente “cambiamento di significato” indica il genere di mutamento che ha avuto, ad esempio, la parola inglese “*knave*” (che un tempo significava “giovane servitore”, spesso autore di furti, e che oggi vuol dire “furfante”; e “estensione del significato” indica il genere di mutamento che ha avuto in Portogallo la parola famiglia (“*familia*”) che ha finito per includere la servitù. Se consideriamo questi tipi di mutamento di significato che dovrebbero essere i soli che servono in una teoria linguistica, è *falso* affermare che nel caso descritto (quando abbiamo concluso che lo zucchero è solubile) la parola “solubile” abbia subito un cambiamento o una estensione di significato. [...] In ogni caso, non c'è in apparenza alcun motivo per cui non si possa accettare la spiegazione usuale. Ciò che si è sempre inteso dicendo che “la tal cosa è solubile” è, ovviamente, che “se la si *immergesse* nell'acqua si scioglierebbe”; e il caso può essere descritto *in maniera adeguata* come una inferenza induttiva che ha portato alla conclusione che tutti questi oggetti (zollette di zucchero, immerse o no) sono solubili. [...] Usualmente si obietta che “non è chiaro che cosa significa” l'espressione: “se fosse immerso in acqua si dissolverebbe”; ma non vi è alcuna evidenza *linguistica* di questa mancanza di chiarezza. (La si può forse interpretare in altri modi?) (*Ibid.*: 245-6)

Già da questa prima disamina è rilevabile la sensibilità pragmatista del pensiero di Putnam: al sofisticato formalismo del verificazionismo Putnam oppone infatti le istanze peirceane del “senso comune critico,”¹⁵ secondo cui è l'ordinaria prassi linguistica dei parlanti reali, efficace e funzionale alla vita, a costituire il criterio dell'indagine metodologica, non il contrario. Una metodologia che astraesse dall'esperienza vitale diventerebbe dunque un inutile tecnicismo autoreferenziale.

Putnam ci invita così ad allargare lo sguardo, affrontando la questione non solo dal punto di vista tecnico, ma nella sua veste genuinamente filosofica: ha davvero una consistenza teoretica la distinzione tra termini osservativi e termini teorici? Perché mai si dovrebbe supporre che sia o dovrebbe essere possibile fornire il significato dei termini teorici usando *solo* termini osservativi?¹⁶

Putnam predispose la risposta a tali quesiti prestando nuovamente attenzione al nostro effettivo comportamento linguistico, dal quale sarebbe possibile riconoscere come l'ostinazione nel voler eliminare qualsiasi elemento non osservativo nel *definiens* di un termine teorico sia vana e inopportuna: a ben vedere infatti, nessun lessicografo nella costruzione di un vocabolario si preoccuperebbe della presenza di circolarità nelle proprie definizioni, poiché sa bene che non è la definizione in sé a garantire la comprensione del significato di un termine e che, più in generale, non è la conoscenza del vocabolario a garantire la conoscenza della lingua; semmai, la consultazione di un vocabolario può essere utile e proficua solo nel caso in cui un parlante *conosca già la lingua*, vale a dire, solo nel momento in cui l'esercizio di un'abilità – l'abilità linguistica appunto – si sia consolidato come *habitus* stabile. Allora, anche riguardo al significato dei termini teorici, il vero problema non è la correttezza formale della definizione, ma *il modo in cui impariamo ad usarli*:

i termini teorici si apprendono essenzialmente nel modo in cui si apprende la maggior parte delle parole. A volte ci vengono date delle definizioni lessicali; più spesso imitiamo semplicemente altri parlanti; molte volte uniamo le due cose (ad esempio, ci viene data una definizione lessicale dalla quale ricaviamo un'idea approssimativa dell'uso della parola, e rendiamo poi simile il nostro comportamento linguistico a quello degli altri parlanti, per imitazione). (Putnam 1962; trad. it. 1993: 246)¹⁷

Tra tutte queste eventualità, l'unica certezza è dunque che l'apprendimento del significato di un termine non può essere garantito dall'osservanza di una procedura di verifica, poiché la componente metodologica si realizza sempre all'interno di una prassi linguistica costituita da elementi empirici di natura psicologia, sociologica, ecc. D'altra parte, secondo Putnam, l'antecedenza logica del linguaggio ordinario sul linguaggio formale non deve essere affatto intesa come mancanza di regolarità e razionalità nell'apprendimento del significato, poiché è la stessa ricerca scientifica ad averla sempre presupposta. Nella fisica, ad esempio, le grandezze vengono spesso definite tramite delle circonlocuzioni in cui ci si avvale di "figure" tipiche del linguaggio ordinario, quali l'esemplificazione per metafora e analogia, nonché di nozioni qualitative:

si potrebbe definire la "massa" come "quella grandezza fisica che determina la resistenza del corpo all'accelerazione: *ad esempio*, se un corpo ha massa doppia, sarà doppiamente *difficile* accelerarlo." Invece di "grandezza fisica" si potrebbe poi dire, nel linguaggio comune, "quella proprietà del corpo," oppure "ciò che nel corpo..."; siffatte nozioni "ad ampio spettro" ricorrono in ogni linguaggio comune. (Putnam 1962; trad. it. 1993: 248; corsivo mio)

E quando nel linguaggio ordinario non sono reperibili soluzioni di continuità con l'uso tecnico di un termine, si osserva la ricorrenza di "asserzioni metalinguistiche" oppure di correlazioni con usi precedenti vicini al linguaggio ordinario, attraverso cui è comunque possibile ricavare un'idea approssimativa del suo significato, che può in seguito essere facilmente precisata esaminando l'intera teoria (cf. *ibid.*).

Dopo aver constatato come nell'effettiva indagine scientifica vengano inevitabilmente considerati primitivi non solo i termini osservativi e i termini logici ma anche i termini "ad ampio spettro" come "oggetto," "grandezza fisica," ecc., e certe nozioni del linguaggio ordinario imprecise ma utili come "più difficile da accelerare," non dovremmo più nutrire alcuna diffidenza nemmeno rispetto all'introduzione dei termini teorici; e se qualcuno continuasse a dire:

"Pretendo che i termini teorici vengano introdotti usando *soltanto i termini osservativi* di Carnap," bisognerebbe rispondere che ciò sembra impossibile. Ma perché mai poi dovrebbe essere possibile? E quale morale filosofica ricavarne? Forse soltanto questa: che è possibile avere un vocabolario teorico ricco come il nostro perché, grazie al cielo, non ci siamo mai trovati nella situazione di avere a disposizione *soltanto* il vocabolario osservativo di Carnap. (*Ibid.*: 250)

La critica al verificazionismo appena condotta può apportare alcuni risultati significativi rispetto alle finalità del presente articolo: sebbene fino alla metà degli anni Settanta Putnam abbia sviluppato le questioni epistemologiche ereditate dalla tradizione neopositivista dei suoi maestri attraverso uno stile squisitamente analitico, è tuttavia già possibile intravedere spunti pragmatisti significativi nel rifiuto del solipsismo metodologico, della dicotomia tra linguaggio osservativo e linguaggio teorico, nonché nel riconoscimento del primato del linguaggio ordinario e della prassi linguistica, rispetto a qualsivoglia forma di astratto "deduttivismo" o di "feticismo per il metodo,"¹⁸ che pretenda assurgere a garante imprescindibile della verità. Infatti, il riconoscimento del primato del linguaggio ordinario dimostra piuttosto come i parlanti operino già "nell'ambito della verità", ovvero all'interno di un'interazione effettiva ed efficace col mondo. Di conseguenza, la metodologia può (e deve) avere una funzione propriamente esplorativa di tale interazione e corrispondenza dinamica e asintotica tra parlanti e ambiente,¹⁹ impegnandosi a riconoscerne le manifestazioni nella prassi senza

avanzare pretese fondative, giacché sarebbe vano voler fondare ciò che sta a fondamento della conoscenza stessa e che opera come sua condizione di possibilità.

3. Critica del falsificazionismo

3.1 Lo “schema induttivistico” tra verificazionismo e falsificazionismo

La precarietà della distinzione tra termini osservativi e termini teorici, nonché la conseguente insostenibilità della concezione delle teorie scientifiche come linguaggi parzialmente interpretati hanno inevitabili ricadute sulla tesi complementare, secondo la quale le teorie scientifiche sarebbero meri strumenti di calcolo di previsioni. Tale tesi risulta complementare in quanto il tentativo di ridurre i termini teorici a termini osservativi presuppone, evidentemente, che non si intenda nemmeno assumere un impegno ontologico circa l'esistenza delle entità teoriche da essi designate, sicché, oscurando del tutto il rilievo ontologico delle teorie scientifiche, esse rinunceranno alla loro funzione semantico-descrittiva per assolvere a una funzione meramente sintattica di deduzione e calcolo di previsioni.

Tuttavia, anche quest'ulteriore “forzatura” dell'impalcatura verificazionista è destinata ad infrangersi sulla solidità della reale prassi dell'indagine scientifica:

in moltissimi casi importanti - infatti - le teorie scientifiche non implicano affatto predizioni. (Putnam 1974; trad. it. 1993: 278)

Il cosiddetto “schema induttivistico,” che esplicita i nessi sintattici tra teoria e predizione, non è l'unico modello esplicativo che ricorre nelle scienze, e nemmeno il più importante. Anzi, a ben vedere, una teoria in quanto tale (cioè come puro insieme di leggi) non può garantire alcuna predizione. Si consideri, ad esempio, la teoria della gravitazione universale (GU), costituita dalle tre leggi di Newton e dalla legge secondo cui la forza gravitazionale sussistente tra due corpi è direttamente proporzionale al prodotto delle loro masse e inversamente proporzionale al quadrato della loro distanza. Tale teoria, in se stessa, non può prevedere alcun enunciato di base valido per la verifica, poiché non dice nulla sull'esistenza di altre forze, o di interferenze di altra natura o di ulteriori corpi che potrebbe modificarne il moto. Ed è così che quando si applica la teoria di Newton ad un problema di astronomia - ad esempio, la previsione dell'orbita della Terra - affinché la deduzione sia possibile, è necessario ricorrere ad alcune asserzioni ausiliarie (AA) che, in prima approssimazione, escludano l'esistenza di altri corpi oltre il Sole e la Terra e che prevedano che tali corpi si trovino nel vuoto assoluto e non siano sottoposti ad altre forze se non alle forze gravitazionali mutuamente indotte. La predizione potrà poi certamente essere migliorata, rendendo più realistiche le asserzioni ausiliarie incorporando, ad esempio, altri pianeti nel modello di sistema solare; ma ciò che a Putnam preme sottolineare è che le predizioni non provengono dalla sola teoria, bensì dall'unione della teoria con le AA.

Si potrebbe pensare che la preoccupazione di Putnam sia meramente terminologica, dal momento che basterebbe considerare le asserzioni ausiliarie come parte integrante della teoria per continuare ad adottare tranquillamente lo schema induttivistico senza ulteriori preoccupazioni. Tuttavia,

Non si tratta semplicemente del fatto che gli scienziati non usano il termine “teoria” per riferirsi alla unione della GU con le AA, bensì che tale uso renderebbe

oscuere alcune profonde questioni metodologiche. [...] Non chiarire la differenza tra le AA e la GU significa non chiarire la differenza tra *leggi* e *asserzioni accidentali*, fra asserzioni che lo scienziato si propone di stabilire come *vere* (le leggi) e asserzioni che egli sa già essere *false* (le ipotesi estremamente semplificatrici). (*Ibid.*: 279)

Se – come abbiamo letto – gli scienziati non mancano di riconoscere l'essenzialità della distinzione, sono ancora una volta gli epistemologi ad “oscurare” questioni metodologiche importanti. Questa volta, però, Putnam non prende solo di mira i verificazionisti, ma, con una delle sue audaci interpretazioni storiografiche, assimila questi ultimi ad uno dei loro avversari più emblematici: Karl Popper. Popper, infatti, avrebbe negato proprio la possibilità di verificare le leggi generali sulla base di dati osservativi o sperimentali (che egli chiama “asserzioni-base”), poiché un metodo del genere dovrebbe essere giustificato o come sintetico a priori (ipotesi storicamente non più percorribile in seguito alla scoperta delle geometrie non euclidee e della teoria della relatività) o ricorrendo ad un principio di ordine superiore (ipotesi che condurrebbe inevitabilmente ad un regresso all'infinito).

Popper ovviamente non intende concludere che l'indagine scientifica sia irrazionale poiché fondata su un principio che è impossibile giustificare, ma che questo principio non sia l'induzione. Con ciò Popper non intende nemmeno negare che gli scienziati enuncino leggi generali e che le sottopongano a verifica, ma vuole sostenere che, quando questo avviene, non si stia asserendo la loro verità, e nemmeno la loro probabilità, ma semplicemente che la legge ha superato un controllo. In definitiva, secondo Popper, gli scienziati non sarebbero principalmente impegnati nel verificare leggi, bensì nel falsificarle (cf. *ibid.*: 274).

Sulla base di questa breve ricostruzione del pensiero di Popper, Putnam osserva innanzitutto che, sebbene le questioni sollevate siano certamente opportune e legittime dal punto di vista logico, la soluzione proposta dal falsificazionismo, presupponendo un atteggiamento di costante sospetto e diffidenza nei confronti delle teorie, è totalmente irrealistica, poiché, a ben vedere, *nella prassi* abbiamo bisogno di poterci *fidare* delle nostre idee:

Quando uno scienziato accetta una legge, egli raccomanda agli altri di fare affidamento su di essa – di farvi affidamento, spesso, in contesti pratici. Solo sradicando completamente la scienza dal contesto in cui essa nasce in realtà – il contesto di uomini che tentano di cambiare e controllare il mondo – Popper è in grado di proporre la sua concezione peculiare dell'induzione. Le idee non sono *soltanto* idee; esse costituiscono una guida per l'azione. Le nostre nozioni di “conoscenza,” “probabilità,” “certezza,” ecc. sono tutte legate a contesti e sono frequentemente adoperate in contesti in cui si pone il problema di come agire: posso avere piena fiducia in una data idea? Devo fare affidamento su di essa a titolo di prova, con una certa cautela? È necessario controllarla? (*Ibid.*: 275)

Si vede dunque come Putnam ricorra a considerazioni pragmatiste anche nella critica al falsificazionismo che, al pari del verificazionismo, proporrebbe una concezione astratta della conoscenza poiché separata dal contesto pratico entro cui nasce, ovvero “il contesto di uomini che tentano di cambiare e controllare il mondo”: analogamente al “socialismo logico” peirceano, anche secondo Putnam “le idee non sono soltanto idee,” ma costituiscono una “guida per l'azione.” Considerando questa strutturale apertura del conoscere alla prassi, Putnam evidenzia inoltre che le virtù epistemiche delle nostre teorie non potranno essere solo di natura teoretica, ma dovranno essere anche di natura etica, quali la fiducia e l'affidabilità: se non potessimo fidarci delle nostre teorie in contesti pratici, anche le conferme più evidenti e i controlli più severi non avrebbero

alcuna importanza scientifica. Ritorna dunque anche in Putnam un altro importante elemento pragmatista: la non assolutezza della logica e la sua interdipendenza con altre forme di sapere umanistiche, quali l'etica e l'estetica. Di conseguenza, lungi dall'approvare la concezione scientifica del mondo dell'empirismo logico che sottraeva al dominio della razionalità gli aspetti esistenziali dell'umano, Putnam intende piuttosto riconoscere e ribadire il pieno valore conoscitivo e razionale anche delle credenze morali e religiose derivanti dalle disposizioni cognitive – e non solo emotive – della fiducia e della fede.²⁰

Passiamo ora alla seconda critica che Putnam rivolge sia al verificazionismo sia al falsificazionismo. Nonostante l'obiettivo polemico fondamentale di Popper sia proprio il principio di induzione del verificazionismo, a ben vedere, anche il falsificazionismo presupporrebbe lo schema induttivistico “teoria-predizione” come unico modello della spiegazione scientifica, rimanendo così anch'esso “impotente” di fronte a tutta una serie di dinamiche strutturali nella scienza, rilevabili solo attraverso il riconoscimento del ruolo fondamentale rivestito dalle asserzioni ausiliarie:

Le spiegazioni “induttivistiche” tipiche della conferma delle teorie scientifiche sono più o meno di questo genere: una teoria implica predizione; se la predizione è falsa, la teoria è falsificata; se un numero sufficientemente alto di predizioni risulta vero, la teoria è *confermata*. Nonostante tutti i suoi attacchi all'induttivismo, lo schema di Popper non è poi tanto diverso: una teoria implica predizione; se la predizione è falsa, la teoria è falsificata; se un numero sufficientemente alto di predizioni risulta vero, e certe ulteriori condizioni sono soddisfatte, la teoria è *corroborata in alto grado*. (Putnam 1974; trad. it. 1993: 277; corsivo mio)

Popper aveva previsto che il falsificazionismo avrebbe potuto essere interpretato, *contre lui*, proprio come una teoria dell'induzione, ed è per questo che vi aggiunse un'importante “condizione antibayesiana” (*ibid.*):²¹ negando che abbia senso parlare di “probabilità antecedente” di un'ipotesi (antecedente cioè al sussistere o meno della sua predizione), secondo Popper, le predizioni effettuate sulla base del retroterra di conoscenza fornito *semplicemente* dalla teoria non possono costituirne un controllo; gli unici controlli legittimi sarebbero dunque quelli effettuati sulla base delle predizioni più *improbabili* rispetto al retroterra di conoscenza, vale a dire i controlli che si contraddistinguono per la loro “severità.”

Purtroppo, anche questa condizione aggiuntiva è estremamente lontana dalla reale prassi della ricerca scientifica. Al riguardo, Putnam propone un esempio tratto dalla storia della scienza:

vediamo in che modo fu accettata la GU. Newton in primo luogo ricavò le leggi di Keplero dalla GU e dalle AA: non si trattava di un “controllo” nel senso popperiano, perché già si sapeva che le leggi di Keplero erano vere. In seguito egli mostrò che la GU avrebbe potuto spiegare le maree sulla base dell'attrazione gravitazionale della luna: anche in questo caso non si trattava di un “controllo,” in senso popperiano, perché le maree erano già note. Egli impiegò poi molti anni a mostrare che era possibile spiegare, tramite la GU, le piccole perturbazioni delle orbite dei pianeti (le quali erano già note). Ormai l'intero mondo civile aveva accettato – e, in realtà, acclamato – la GU; ma essa non era stata affatto “corroborata” nel senso di Popper! Se cerchiamo un controllo alla Popper della GU – se cerchiamo di ricavare, cioè, una predizione nuova e azzardata rispetto al retroterra di conoscenza – non ne troviamo nemmeno una fino all'esperimento di Cavendish del 1781: all'incirca cento anni dopo che la teoria era stata introdotta! (*ibid.*: 291)

Essendo dunque l'appello a “condizioni antibayesiane” inefficace rispetto al tentativo di demarcazione tra corroborazione e induzione, Putnam può così procedere nella critica

dello “schema induttivistico,” per dimostrare quali siano sia nel verificazionismo sia nel falsificazionismo le gravi conseguenze del mancato riconoscimento del ruolo fondamentale delle asserzioni ausiliarie nelle spiegazioni scientifiche.

3.2 Il “successo” oltre le “previsioni”

Per fare ciò, Putnam rivolge nuovamente l’attenzione all’astronomia, presentando il caso del calcolo dell’orbita di Urano.

Quando intorno al 1846 le predizioni sull’orbita di Urano si rilevarono errate, gli astronomi non pensarono affatto a modificare le leggi di GU, ma rivolsero subito l’attenzione alle asserzioni ausiliarie, e in particolare, a quelle relative al numero dei pianeti. Si trattava infatti dell’“aggiustamento” più semplice, giacché – matematicamente parlando – il ripensamento di un mezzo di propagazione della forza che *non* fosse il vuoto, o il ripensamento dell’influsso di altri generi di forze *non* gravitazionali, implicando un dominio di alternative indeterminato, avrebbe richiesto di gestire un dominio di previsioni equiprobabili potenzialmente infinito. Invece, con i pianeti, sarebbe bastato procedere ricorsivamente, fintanto che la correzione esatta del loro numero avrebbe consentito di dedurre la previsione corrispondente all’effettiva orbita del pianeta incognito.

Una schematizzazione del problema può facilitarne la comprensione. Dato che il comportamento dell’orbita di Urano si era rivelato incompatibile rispetto alle previsioni della GU, gli astronomi provarono a derivare i nuovi dati sperimentali, a partire da ulteriori asserzioni ausiliarie oltre a quelle già note (siano queste ultime “A1”):

(I) Teoria: GU

AA: (A1)

Ulteriori AA: ?

Explanandum: l’orbita di Urano

Per i motivi di semplicità già esposti, ipotizzarono innanzitutto che oltre a Mercurio, Venere, la Terra, Marte, Saturno e Urano, vi fosse nel sistema solare un solo altro pianeta – sia quest’ulteriore ipotesi “A2” – e sulla base di tale variazione calcolarono l’orbita “O” che il pianeta incognito avrebbe dovuto avere, per poter verificare infine tale predizione:

(II) Teoria: GU

AA: A1, A2

Predizione da verificare: Esiste un pianeta la cui orbita è “O”?

E fu così che nel 1846 Leverrier in Francia e Adams in Inghilterra scoprirono contemporaneamente l’esistenza di un nuovo pianeta: Nettuno, il cui influsso gravitazionale poteva finalmente spiegare le anomalie dell’orbita di Urano (cf. *ibid.*: 285-7).

Quale insegnamento è possibile trarre dall’intera vicenda? Secondo Putnam, va innanzitutto osservato come lo schema induttivistico “teoria-predizione,” esemplificato da (II), intervenga in modo operativo nella spiegazione solo in seguito alla predisposizione di (I), vale a dire, solo dopo aver introdotto tentativamente – e non

apoditticamente – ulteriori ipotesi ausiliarie. La predizione, dunque, non sarebbe *stricto sensu* una conseguenza logica, poiché viene dedotta da premesse rispetto alle quali non si ha certezza. E in effetti, l'ipotesi secondo cui vi sarebbe stato un solo pianeta oltre ai sei conosciuti – senza la quale non sarebbe stato possibile derivare la predizione – non era vera: Nettuno non era l'unico pianeta del sistema solare a mancare all'appello; doveva infatti essere ancora scoperto Plutone.

Dobbiamo forse per questo ritenere che Leverrier e Adams si fossero ingannati o che non fossero legittimati ad affermare l'esistenza di Nettuno? Certamente no, saremmo piuttosto indotti a riconoscere come una parte importante dell'attività scientifica non si realizzi attraverso il calcolo di previsioni, e di conseguenza, come la verifica, o corroborazione che dir si voglia, non costituisca l'unico criterio di giustificazione nella scienza. D'altra parte, il fatto stesso che di fronte alle anomalie dell'orbita di Urano non si sia nemmeno pensato di modificare la teoria della gravitazione universale, e che invece si sia da subito intervenuti sulle asserzioni ausiliarie, dimostra come predizioni errate non siano condizione sufficiente per abbandonare una teoria, ma allo stesso tempo, dimostra anche come il suo *successo esplicativo* sia condizione sufficiente per continuare a mantenerla, pur nella presenza di anomalie. Fintanto che una teoria consente di spiegare “sistemicamente” i fenomeni più significativi all'interno di un particolare paradigma scientifico, tale teoria viene mantenuta, sebbene il suo potere predittivo possa essere stato indebolito da false predizioni. In questa fase della vita di una teoria, la principale attività scientifica non consiste allora nel calcolare previsioni, ma nel trovare le asserzioni ausiliarie necessarie per “far tornare i conti” in virtù del suo reale successo esplicativo.

Se esistono dunque momenti nella scienza – e peraltro nemmeno così “passeggeri” – in cui le predizioni non sono determinanti in vista della giustificazione di una teoria, possiamo finalmente comprendere il difetto fondamentale comune sia al verificazionismo sia al falsificazionismo:

Gli insuccessi non falsificano una teoria, perché un insuccesso non è una falsa predizione ricavata da una teoria unita a fatti noti e sicuri, ma un insuccesso nel trovare qualcosa – in effetti un insuccesso nel trovare una AA. Le teorie, nel periodo della loro permanenza in carica, sono altamente immuni da falsificazioni; la loro carica decade quando compare sulla scena una teoria migliore (o una tecnica esplicativa completamente nuova), non un enunciato di base. E i successi non “confermano” una teoria, una volta che essa è divenuta paradigmatica, perché la teoria non è un’“ipotesi” che abbia bisogno di conferma, ma la base di un'intera tecnica di spiegazione e predizione, e forse anche di una tecnologia. (*Ibid.*: 288)

In definitiva, la scienza secondo Putnam progredirebbe attraverso la dialettica di due “tendenze conflittuali” e nel contempo “interdipendenti”: lo schema “teoria-AA” – (I), per intenderci – rappresenterebbe la “tendenza esplicativa” della ricerca scientifica, in cui una certa teoria viene accettata principalmente in virtù del suo reale successo esplicativo e il maggior sforzo teoretico viene impiegato nella ricerca delle asserzioni ausiliarie che consentano di gestirne le anomalie; quando il “costo di gestione” delle anomalie comincia a diventare insostenibile rispetto al “guadagno esplicativo,” e soprattutto, quando inizia a configurarsi un modello teorico alternativo, entra allora in gioco la “tendenza critica” – rappresentata dallo schema (II) “teoria-predizione” – in cui la teoria non viene più data per nota, ma percepita come problematica, e ci si impegna nel metterla alla prova attraverso il controllo delle sue previsioni.

Non è difficile vedere, infine, come tale conflittualità sia ad un tempo interdipendenza: la soluzione di un problema rappresentato dallo schema (I) deve essere confermata mediante un tipo di controllo della forma dello schema (II), e se la soluzione confermata è una legge generale (e non semplicemente un'asserzione singolare), questa può a sua volta divenire un paradigma proponibile come premessa maggiore di un problema dello schema (I), e così via (Cf. Putnam 1974; trad. it. 1993: 289).

Anche al termine di questa critica del falsificazionismo emergono chiaramente i presupposti pragmatisti dell'argomentazione di Putnam, che ribadisce il primato logico e cronologico della prassi, ovvero del successo esplicativo, applicativo e tecnologico di una teoria, come principio e criterio del progresso scientifico e dell'evoluzione umana in generale:

la prassi è primaria: le idee non sono solo fine a se stesse, né lo è la scelta di quali idee “sottoporre a critica.” L'importanza primaria delle idee sta nel fatto che esse guidano la prassi, che strutturano intere forme di *vita*. Le idee scientifiche guidano la prassi nella scienza, nella tecnologia, e a volte nella vita pubblica e privata. Nella scienza il nostro scopo è il tentativo di scoprire idee corrette: al contrario di ciò che dice Popper, non si tratta di oscurantismo, ma di responsabilità. (*Ibid.*: 292)²²

4. Critica dell'epistemologia post-popperiana

Il ricorso al pragmatismo non risulta “vincente” solo nei confronti del verificazionismo e del falsificazionismo, ma consente a Putnam di superare anche le aporie del terzo momento fondamentale nello sviluppo dell'epistemologia contemporanea, rappresentato da Thomas Kuhn con l'opera *Struttura delle rivoluzioni scientifiche*.

Putnam riconosce innanzitutto come il dinamismo del progresso scientifico appena delineato corrisponda in qualche modo alle idee centrali di Kuhn di “paradigma,” “scienza normale” e “soluzione di rompi capo.” Secondo Kuhn, infatti, un “paradigma” è una teoria che dispone di applicazioni “riuscite e straordinarie” – o per usare la terminologia che abbiamo finora adottato – una teoria, il cui *successo esplicativo* deve essere tale da indurre gli scienziati a emularlo, ricercando ulteriori spiegazioni sulla base dello stesso modello. Come abbiamo letto in precedenza, ciò è accaduto nel momento in cui – introdotta la teoria della gravitazione universale – vennero derivate le leggi di Keplero e spiegato il fenomeno delle maree. Un nuovo paradigma, dunque, è tanto più accolto quanto più è in grado di generare un “campo di ricerca”: il campo di ricerca generato dal paradigma newtoniano fu, in primo luogo, l'intero campo della meccanica celeste. Kuhn sostiene inoltre che il paradigma che struttura un intero campo di ricerca sia “altamente immune da falsificazione,” poiché nei periodi di “scienza normale,” in cui il paradigma è pressoché completamente accettato dalla comunità scientifica, la teoria non riveste il ruolo di una ipotesi da sottoporre a controlli, ma piuttosto “la base di un'intera tecnica di spiegazione,” e in particolare della spiegazione delle anomalie attraverso la ricerca di ulteriori asserzioni ausiliarie. Al riguardo, il termine “rompicapo” sembra essere particolarmente efficace poiché evoca l'immagine del tappare un buco, proprio come avviene nella soluzione di un *puzzle*.

Pur riconoscendo una simile affinità di idee, Putnam ne rivendica l'originaria paternità:

Di recente diversi filosofi hanno iniziato a proporre una concezione piuttosto nuova dell'attività scientifica. Credo di aver anticipato questa concezione dieci anni fa, quando sostenni che certe teorie scientifiche non possono essere confutate sulla

base di soli esperimenti e osservazioni, ma unicamente tramite teorie alternative. Questa concezione è stata anche anticipata da Hanson (1958), ma viene espressa nel modo più preciso negli scritti di Thomas Kuhn (1962) e Louis Althusser (1965). Entrambi questi filosofi, io credo, commettono degli errori; ma credo anche che la tendenza che essi rappresentano (e che anch'io rappresento, quanto a questo) sia un necessario correttivo al deduttivismo che abbiamo esaminato. (*Ibid.*: 283)²³

Il luogo in cui Putnam avrebbe presentato un'inedita concezione dell'attività scientifica è un saggio pubblicato per la prima volta il 22 ottobre 1962 in "The Journal of Philosophy", intitolato *It ain't necessarily so*.²⁴ D'altra parte, anche l'opera di Kuhn *The Structure of Scientific Revolutions* risale al 1962. La questione interessante non è certamente stabilire a chi spetti il primato, ma provare a capire la peculiarità di ciascuna posizione. A tal fine, prendiamo innanzitutto in considerazione le critiche che Putnam rivolge a Kuhn:

Le asserzioni più controverse di Kuhn riguardano il processo attraverso il quale un nuovo paradigma soppianta un paradigma precedente. Qui egli tende ad essere soggettivista in modo radicale: i dati non possono stabilire la priorità di un paradigma sull'altro perché essi stessi vengono percepiti attraverso le lenti dell'uno e dell'altro paradigma. Il passaggio da un paradigma a un altro richiede un "riorientamento gestaltico." La storia e la metodologia della scienza vengono riscritte ogni volta che avviene un cambiamento di paradigma, pertanto non esistono canoni storici e metodologici "neutrali" a cui richiamarsi. Kuhn sostiene dunque delle concezioni sul significato e sulla verità che hanno carattere relativistico e che sono, a mio avviso, scorrette. (Putnam 1974; trad. it. 1993: 284)

Sebbene Putnam sia convinto, al pari di Kuhn, che nella giustificazione delle teorie scientifiche il coinvolgimento di elementi extra-metodologici – quali il successo esplicativo – sia determinante, tuttavia, non ritiene che tale relativizzazione della metodologia debba necessariamente comportare una concezione relativistica della conoscenza. In tal senso, lo sforzo di Putnam nel trovare un compromesso virtuoso tra fondazionalismo radicale e relativismo estremo è davvero ammirevole: se da un lato le forzature formali del verificazionismo non sembrano affatto sostenibili, dall'altro, Putnam non cede né all' "estremo popperiano," in cui l'impossibilità di formulare teorie attraverso l'accumulazione di esperienze percettive si traduce in una reinterpretazione astratta dell'attività scientifica. D'altra parte non cede nemmeno all' "estremo kuhniano" in cui la cumulatività del sapere scientifico è addirittura bandita di principio dalla "tesi dell'incommensurabilità." A fronte di questi estremi, Putnam ripropone invece le istanze pragmatiste del "senso comune critico" peirceano, ispirate alla ragionevolezza e al buon senso. In particolare, a Popper, che nega che l'accumulazione di esperienze percettive possa portare a formulare teorie, Putnam risponde:

egli ha ragione nel sostenere che ciò non accada in senso meccanico o algoritmico, tale accumulazione porta però a formulare teorie nel senso che rappresenta una *regolarità dotata di significato metodologico* il fatto che (1) la mancanza di esperienza dei fenomeni e della conoscenza già acquisita dei fenomeni stessi *diminuisce* in modo notevole la probabilità di idee corrette; e che (2) un'esperienza molto vasta *accresce* in modo notevole la probabilità di idee corrette, o parzialmente corrette. (*Ibid.*: 282; corsivo mio)²⁵

Nei confronti di Kuhn, per il quale l'intervento di fattori extra-metodologici nella giustificazione scientifica sancirebbe la radicale storicizzazione della conoscenza e la conseguente relativizzazione della verità, potrebbero invece risultare efficaci alcune considerazioni che Putnam adduce riguardo al carattere "ad-hoc" delle asserzioni

ausiliarie, le quali, essendo proprio ipotesi sulle condizioni iniziali e *al contorno*, rappresenterebbero l'emblema di quella "extra-metodologicità" che, secondo Kuhn, costringerebbe l'impresa scientifica ad abdicare dalla pretesa di razionalità.

Putnam osserva innanzitutto come la connotazione usuale di "arbitrarietà," e quindi di "irragionevolezza," che viene attribuita all'espressione "*ad hoc*" sia fuorviante:

"*ad hoc*" significa soltanto "per questo scopo particolare." È poi vero che "*ad hoc*" ha acquisito la connotazione di "irragionevole" – ma questa è una cosa diversa. L'ipotesi che certe stelle abbiano compagne oscure è "*ad hoc*" nel senso letterale: l'ipotesi viene formulata allo scopo specifico di rendere conto del fatto che non è visibile alcuna compagna. Ed essa è anche molto ragionevole. (*Ibid.*: 290)

D'altra parte, è inoltre sempre possibile verificare che l'intervento sulle asserzioni ausiliarie non sia arbitrario poiché, sebbene una teoria possa essere legittimamente preservata ricorrendo a mutamenti delle AA che siano *ad hoc* – ovviamente nel senso ragionevole appena proposto – i suoi successi non devono e *non possono* essere "*ad hoc*" – nel senso negativo dell'espressione; una teoria, infatti, viene accettata soltanto se è accompagnata da *successi esplicativi sostanziali e reali*, non "*ad hoc*." In entrambi gli argomenti Putnam fa ancora leva sul primato della prassi, ovvero sul successo esplicativo e applicativo delle teorie scientifiche come principale indizio della loro verità. Ma come possiamo finalmente giustificare in maniera apodittica questa tesi?

In genere, e a lungo andare, le idee vere sono quelle che hanno successo; come facciamo a saperlo? Anche questa asserzione è un'asserzione sul mondo, una asserzione alla quale siamo giunti in base alla nostra esperienza del mondo; e noi crediamo nella prassi a cui questa idea corrisponde, e nell'idea in quanto guida di quella prassi, perché crediamo in tutte le buone idee: tutto ciò ha dimostrato di avere successo! In questo senso "l'induzione è circolare." Ma certo che lo è! L'induzione non possiede alcuna giustificazione deduttiva; l'induzione non è deduzione. Le giustificazioni circolari non debbono essere necessariamente autoprotettive, né totalmente incapaci di fornire informazioni: i precedenti successi della "induzione" accrescono la fiducia che riponiamo in essa, e i suoi precedenti errori temperano tale fiducia. Il fatto che una giustificazione sia circolare significa solo che essa non può servire in se stessa come *motivazione*, a meno che la persona a cui viene fornita come motivazione non sia già in qualche modo propensa ad accettare la conclusione. Noi abbiamo una propensione – una propensione *a priori*, se volete – a ragionare in modo induttivo, e i precedenti successi della "induzione" accrescono tale propensione. Il metodo di controllare le idee attraverso la prassi e di basarsi su quelle che mostrano di avere successo (perché in ciò consiste l'"induzione") non è ingiustificato. Si tratta di un'asserzione *empirica*. Il metodo non ha una "giustificazione" – se per giustificazione si intende una prova dedotta da principi eterni e formali che giustifichi la fiducia nel metodo. Ma allora niente ha una giustificazione – nemmeno, a mio avviso, la matematica pura e la logica formale. (*Ibid.*: 293-4)²⁶

Non esiste dunque, secondo Putnam, nessuna garanzia metodologica per instaurare una perfetta corrispondenza tra le nostre teorie alla realtà, ma ciò non significa che una tale relazione sia inconoscibile o che non esista. Il successo delle teorie e, più in generale, il progresso scientifico insegnano piuttosto che pensiero e realtà corrispondono "asintoticamente," in maniera graduale e approssimativa. L'epistemologo, assieme alle competenze tecniche e formali, dovrà allora esercitare altre virtù essenziali per il proprio mestiere: innanzitutto l'umiltà derivante dalla consapevolezza di non poter possedere metodologicamente la realtà, in secondo luogo la tenace fiducia nella possibilità della conoscenza per quanto incerta, relativa, provvisoria, ma comunque vera, cioè aperta al reale.

Solo in questo modo sarà possibile liberarsi dai frustranti idoli del fondazionalismo riduzionistico, nonché dalla compiaciuta rassegnazione del relativismo: accettando con umiltà e fiducia la nostra condizione di animali razionali le cui idee – come abbiamo già detto – “non sono soltanto idee,” ma lo strumento principale con cui modifichiamo il mondo per preservare la vita. Ecco allora che il primato della prassi quale criterio, o meglio, indizio nella lunga strada della verità offre alla conoscenza umana un fondamento dinamico ma allo stesso tempo ben radicato nel mondo della vita, che possiamo definire come la propensione a priori a ragionare in maniera induttiva, in virtù della fiducia riposta nelle esperienze che hanno mostrato di avere successo esplicativo e applicativo. Non occorre altra giustificazione.

La rilettura putnamiana dell'epistemologia contemporanea attraverso la lente del pragmatismo sembra, infine, essere ricca di insegnamenti anche per l'odierna coscienza culturale, testimoniando la possibilità di sintesi tra molteplici e differenti istanze filosofiche, riscoprendo il legame tra speculazione e vita con una rinnovata consapevolezza dell'attualità del sapere filosofico, valorizzando la complessa unità dell'umano, in cui ragione e emozioni contribuiscono insieme alla comprensione della realtà.

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NOTE

1. In questa direzione vanno anche due recenti e autorevoli studi italiani, concordi nel riconoscere una sensibilità pragmatista nella prima fase delle ricerche putnamiane pur legate alle questioni epistemologiche tipiche della sua formazione riconducibile alla filosofia analitica. Cf. Corvi 2017, in particolare 89-98; Marchetti 2015. Inoltre, sia Corvi sia Marchetti riconoscono la propensione di Putnam a voler essere considerato un filosofo “senza aggettivi,” reputando i movimenti filosofici come strumenti provvisori per introdurre idee nuove e non come categorie imprescindibili, entro cui il filosofo deve necessariamente e stabilmente collocarsi. La definizione di Putnam come un neopragmatista tout court sembra dunque essere per certi versi problematica.

2. Putnam 1977; trad. it. 1982.

3. Putnam 1981; trad. it. 1985.

4. In letteratura critica (cf. Clark & Hale 1994; Auxier, Anderson & Hahn 2015) non vi sono evidenti ed esplicite interpretazioni neopositiviste della fase iniziale delle ricerche di Putnam, tuttavia, l'aver interpretato tali ricerche sempre e solo all'interno della tradizione e dello stile analitici, senza intravederne gli elementi di originalità, in primis, d'ispirazione pragmatista, ha indotto nell'immaginario filosofico l'idea di una fase neopositivista del pensiero di Putnam. È lo stesso Putnam ad aver denunciato in una delle ultime pubblicazioni l'indebita interpretazione neopositivista dei suoi primi scritti: "Il 'realismo scientifico,' termine che avevo impiegato ripetutamente nei primi due volumi dei miei *Philosophical Papers* (apparsi nel 1975), viene identificato con quello che in *Realismo e ragione* avevo chiamato 'realismo metafisico': col risultato che si interpreta quella conferenza, e di fatto l'intero 'Putnam intermedio,' come una confessione di quasi tutto quello che avevo scritto nei due volumi retrospettivi [...] Ora si tende a credere che quei volumi rappresentino un periodo di 'realismo metafisico' nel corso della mia evoluzione! Per quanto un fraintendimento di questo genere sembri destinato a non scomparire dalla critica, permettetemi comunque di ripeterlo e sottolinearlo: mi sono *sempre* considerato un realista scientifico, anche se naturalmente non solo un realista scientifico." (Putnam 2012; trad. it. 2012, 74-5). D'altra parte, già ai tempi di *Realism and Reason* Putnam era consapevole del rischio di un simile fraintendimento: "Il 'realismo' di cui sto parlando viene spesso chiamato dai suoi sostenitori 'realismo scientifico.' Se evito qui tale termine [dopo averlo 'impiegato ripetutamente nei primi due volumi dei *Philosophical Papers*'], è perché 'realista scientifico,' come etichetta, comporta un certo *tono* ideologico – un tono reminiscente da vicino del materialismo del diciannovesimo secolo, o, per essere espliciti, dell'ateismo rozzo. In realtà, se un 'realista scientifico' è uno il quale crede, *inter alia*, che *tutta* la conoscenza degna del nome sia parte della 'scienza,' allora io non sono un 'realista scientifico.' Ma la conoscenza scientifica è certamente una fetta ragguardevole della nostra conoscenza; e della sua natura e del suo significato si sono occupati tutti i grandi filosofi minimamente interessati alla teoria della conoscenza [...] E se in ciò che segue concentrerò la mia attenzione sulla conoscenza scientifica, è perché su di essa si è concentrato il dibattito, e non per una mia personale propensione con lo scientismo." (Putnam 1978, 123-38; trad. it. 1982, 17-96). Per un approfondimento sul significato di "realismo metafisico" e "realismo scientifico" in Putnam e sulle possibili origini della loro confusione si veda Lizzadri (2017; in particolare 91-5). Si veda anche Marchetti (2015: 294): "Solitamente, gli interpreti del pensiero putnamiano sostengono che agli inizi della sua carriera egli abbia aderito al realismo metafisico. Questa affermazione non ci sembra del tutto corretta, poiché su di essa sembrano gravare talune 'sviste' interpretative. Sebbene in quegli anni egli abbia sostenuto un 'realismo privo di aggettivo qualificativo,' ci sembra inappropriato dire che egli, nella prima fase del suo pensiero, sia stato un realista metafisico. Infatti, le tesi sostenute in *The Analytic and the Synthetic* e *What Theories Are Not* mostrano come Putnam propenda per un realismo dalla connotazione scientifica."

5. Sempre riguardo al solipsismo metodologico del verificazionismo l'edizione in lingua originale propone un saggio non tradotto nell'edizione italiana. Si veda Putnam "Wittgenstein and Realism," in 2012: cap. 22.

6. Carnap 1934.

7. Putnam 1975; trad. it. 2004: 38.

8. La forza del linguaggio di dati sensoriali, che avrebbe dovuto spazzare via le impurità del linguaggio ordinario, risiede nella *semplicità* argomentativa con cui è possibile derivare le comuni esperienze percettive. Ad esempio, per raggiungere la conclusione formulata nel linguaggio di dati sensoriali "che nel mio campo visivo ho un dato sensoriale a forma di sedia," il ragionamento suonerebbe così: "(1) Sono in una stanza in cui si trova una sedia, e i miei occhi fissano la sedia. (2) La stanza è normalmente

illuminata. (3) Io sono cosciente e presto attenzione al mio campo visivo. (4) Ogni volta che sono in una stanza in cui..., e che normalmente illuminata..., e io sono cosciente e presto attenzione al mio campo visivo, si dà il caso (o si dà quasi sempre il caso) che nel mio campo visivo c'è un dato sensoriale a forma di sedia. (Conclusione) Nel mio campo visivo c'è un dato sensoriale a forma di sedia. Il ragionamento mostra che la conclusione è derivabile dall'ultima premessa, che è una proposizione generale sulla percezione degli oggetti materiali ampiamente accettata, congiunta con altre tre premesse che sono 'ipotesi ausiliarie' alle quali io credo in questo caso specifico. Pertanto, tutto il mio *sistema* di credenze sulle cose materiali (e sulle loro relazioni con l'esperienza sensoriale) può spiegare (in sintonia con uno schema di spiegazione ampiamente esemplificato nella letteratura scientifica) un fatto indubbio circa la mia esperienza sensoriale. Se questo 'fatto indubbio' sia, in qualche senso, 'indubitabile,' e se sia effettivamente più 'basilare' dei fatti relativi a cose materiali [corsivo mio] non ha neppure bisogno di essere discusso. Tutto ciò che conta è che *sia* un fatto che l'avversario del realismo (ad esempio l'idealista soggettivista) sia disposto a riconoscere, e quindi un fatto che si possa invocare senza incorrere in una *petitio principii*." (Putnam 1975; trad. it. 2004: 42-3).

9. Come abbiamo appena constatato il giudizio di Putnam sul fenomenismo è categorico, tuttavia, ciò non gli impedisce di valorizzare il significato culturale dell'impresa neopositivista. Può essere utile acquisire familiarità con tale propensione virtuosa caratteristica del pensiero di Putnam, per saperne riconoscere viziose strumentalizzazioni a favore dell'interpretazione neopositivista dei Philosophical Papers. Sempre riguardo al neopositivismo Putnam afferma: "L'importanza del contributo dell'empirismo logico è oggi spesso misconosciuta (o peggio, deliberatamente sminuita) perché il suo contributo effettivo si è rivelato interamente negativo. Non una delle grandi tesi positive dell'empirismo logico (che il significato è il metodo della verifica; che le proposizioni metafisiche sono letteralmente prive di senso; che la matematica è vera per convenzione) è risultata valida. Certo, se i risultati che si ottengono sono uniformemente negativi, il fatto di poter rendere più scientifica la filosofia volgendo tesi filosofiche in tesi linguistiche e di poter stabilire con un'impegnata ricerca scientifica il valore di verità di certe proposizioni filosofiche perde un po' del suo potere di entusiasmo. Ma se la sensazione di disappunto è, umanamente parlando, del tutto comprensibile, non meno del desiderio di tentare qualcosa di nuovo, l'aver mostrato in che modo rendere più precise delle proposizioni filosofiche resta pur sempre un grande contributo storico. E se poi quelle proposizioni risultano tutte false, ebbene, aver raggiunto un accordo anche su ciò è certo un progresso importante." (*Ibid.*: 41).

10. Cf. Putnam 1973; trad. it. 2004: 232.

11. Putnam 1962; trad. it. 1993, in particolare: 237.

12. (*Ibid.*: 242).

13. La monografia di Carnap a cui si fa riferimento in questo passo è "The Foundations of Logic and Mathematics," (1939; trad. it. 1956).

14. Carnap 1955. Pubblicato in precedenza in *Philosophy of Science*, 3 (1936) e 4 (1937).

15. Peirce 1867. Sulle prime formulazioni della "massima pragmatista" si veda anche Peirce 1877, e Peirce 1878.

16. Tali questioni riguardanti l'interdipendenza tra osservazione e teoria, fatti e interpretazioni/valori, ecc. verranno esplicitamente approfondite alla luce della tradizione pragmatista in *Realism with a Human Face* (1990), ne *Il pragmatismo: una questione aperta* (1992), per essere ancora riprese in *The Collapse of the Fact/Value Dichotomy and Other Essays* (2002). Al riguardo, il riferimento pragmatista principale è l'olismo di William James derivante dal suo empirismo radicale, secondo cui nell'"esperienza pura pensiero e sensazione sono fusi." Cf. James 2004; 2009.

17. A questo riguardo, emerge come il pragmatismo costituisca un criterio interpretativo unitario del pensiero di Putnam: già nel 1962 – anno di pubblicazione del saggio in esame – Putnam sosteneva l'esigenza di concretizzare la teoria del significato nella prassi linguistica, rendendola complementare ad una teoria della comprensione. Tale intuizione verrà tematizzata esplicitamente sedici anni dopo nel "manifesto" del realismo interno (Putnam 1978b; trad. it. 1982).

18. Putnam conia queste espressioni rispettivamente in Putnam 1974, trad. it. 1993; e in Putnam 1981; trad. it. 1985.

19. La riforma della teoria della verità come corrispondenza in senso dinamico come approssimazione asintotica tra pensiero e realtà viene esplicitamente proposta da Putnam in un altro saggio, pubblicato per la prima volta nei *Philosophical Papers*: "linguaggio e pensiero corrispondono asintoticamente alla realtà [...] Una teoria del riferimento è una teoria di tale corrispondenza." (Putnam 1975; trad. it. 2004: 317). Anche a questo proposito risulta evidente il rapporto con il pragmatismo: nella tradizione filosofica americana, la definizione di verità in termini di corrispondenza asintotica compare originariamente nei primi scritti di Peirce tra il 1860 e il 1870. L'immagine dell'asintoto, e dunque di una mai piena coincidenza tra piano del pensiero e piano della realtà, è segno di uno scetticismo positivo, che non vuole negare la possibilità della conoscenza, ma affermare l'indisponibilità almeno parziale della realtà da parte del soggetto conoscente. Nella prospettiva pragmatista, una teoria della conoscenza dovrà dunque rifuggire da tutti gli approcci alla realtà "totalizzanti," in cui il soggetto conoscente pretende possedere metodologicamente il reale, come avviene per il verificazionismo. Negli scritti dell'ultimo decennio del XIX secolo (si veda ad esempio Peirce 1891), Peirce sostiene che la logica dovrà piuttosto aprirsi ad altre scienze normative, quali l'estetica e l'etica, in quanto i segni non vengono interpretati attraverso una funzione logico-matematica, ma secondo una familiarità estetica con il sistema di segni a cui appartengono, nonché secondo un giudizio etico sulla plausibilità di tale interpretazione. Non è evidentemente possibile formalizzare un simile processo (l'abduzione), che al contrario, secondo Peirce, potrà essere giustificato solo in virtù dell'"istinto razionale" degli esseri umani a interpretare i segni in maniera funzionale alla sopravvivenza. Come vedremo, anche in Putnam sarà riscontrabile un analogo ripensamento dell'induzione in termini di "propensione a priori" dell'intelligenza umana.

20. Circa il fondamento etico ed estetico della logica in Peirce si rimanda ai riferimenti bibliografici notati in precedenza (Supra, nota 19). Circa il rilievo cognitivo delle credenze morali e religiose si segnalano in particolare gli studi di un altro importante padre del pragmatismo: James 1912, trad. it. 1912; e James 1879.

21. Il teorema di Bayes asserisce, all'incirca, che la probabilità di un'ipotesi I data l'evidenza E è direttamente proporzionale alla probabilità di E data l'ipotesi I , ed è anche direttamente proporzionale alla probabilità antecedente di I – cioè alla probabilità di I allorché non si conosce E . Il teorema asserisce anche che la probabilità di I data l'evidenza E è minore, a parità di tutte le altre condizioni, se la probabilità di E sulla base dell'ipotesi \bar{I} (non- I) è maggiore. Al giorno d'oggi i teorici della probabilità si dividono fra coloro che accettano la nozione di "probabilità antecedente di un'ipotesi," che è cruciale per il teorema, e coloro che respingono questa nozione, e quindi la nozione della probabilità di un'ipotesi sulla base di un'evidenza determinata. Quelli della prima scuola vengono chiamati "bayesiani"; gli altri "anti-bayesiani."

22. Anche rispetto al primato della prassi si riscontrano affinità con il pragmatismo classico: anche in Putnam, infatti, tale primato non può essere frainteso con una forma di utilitarismo soggettivistico, come è invece spesso erroneamente accaduto con l'interpretazione della teoria della verità in termini di "convenienza" proposta da William James (Cf. James 1978: 106; e, sulla letteratura critica, cf. Misak 1991; Calcaterra 2003). Putnam mette bene in luce come il primato della prassi quale criterio di giustificazione della verità di una teoria non debba essere inteso in termini egoistici ed utilitaristici, bensì in una prospettiva di convenienza collettiva derivante e

ancorata al mondo della vita. In questa connessione tra esercizio della scienza, responsabilità pubblica e difesa della vita emerge un ulteriore riferimento ad un tema classico deweyano (cf. Dewey 1949).

23. I riferimenti bibliografici indicati sono: Hanson 1958, trad. it. 1978; Althusser 1965, trad. it. 1968; Kuhn 1962, trad. it. 1969.

24. Il saggio poi confluirà nel primo volume dei *Philosophical Papers*: Putnam 1975; trad. it. 1993.

25. È opportuno segnalare anche a questo riguardo la continuità rispetto alla tradizione pragmatista: già Peirce infatti aveva proposto una concezione probabilistica della conoscenza, opponendosi al necessitarismo della filosofia moderna e del positivismo (si veda sempre Peirce 1891). Secondo Peirce, l'uniformità in natura è solo statistica in quanto nella sua descrizione intervengono inevitabilmente fattori pratici che spezzano il legalismo a favore di un'immagine teleologica del cosmo, che, nella sua progressiva realizzazione delle condizioni migliori alla vita umana Peirce indica con il termine "agapismo." A sua volta, Putnam avrà modo di sviluppare ulteriormente l'argomento con considerazioni analoghe in *Reason, Truth, and History*, affermando che la maggiore o minore probabilità della verità di una descrizione, ovvero la sua accettabilità razionale, "vada ricercata nel fatto che avere un sistema di rappresentazioni di [un certo] tipo è parte della nostra idea di fioritura cognitiva umana, e perciò anche parte della nostra idea di fioritura umana totale, di eudemonia" (1981: 146).

26. Circa la "propensione a priori a ragionare in maniera induttiva" e dunque rispetto ad una conoscenza empirica che sia orientata e guidata da qualche ipotesi antecedente l'esperienza è possibile riscontrare le affinità con un tema classico del pragmatismo: l'abduzione. Sebbene nessun pragmatista mancò di occuparsi di abduzione in certa misura, è a Peirce che va attribuito il lavoro più dettagliato, ampio e approfondito su questo tipo di inferenza (per una ricostruzione approfondita, si veda Niño 2008; Maddalena 2009). Agli occhi di Peirce l'abduzione non rappresenta semplicemente quel momento interno alla pratica scientifica oggi noto come "inferenza alla migliore spiegazione," ma interessa anche il momento più propriamente ideativo o generativo in quanto tale, fino a costituire la struttura cognitiva del giudizio percettivo.

RIASSUNTI

The article aims at deepening and making explicit the influence of pragmatism on the thought of Hilary Putnam, moving from the analysis of some of his earlier writings, in which the reference to pragmatism was still very much implicit. In particular, although focused on the classical neopositivist questions of the philosophy of science on which Putnam has been trained, the essays *What Theories Are Not* (1962) and *The "Corroboration" of Theories* (1974) betray some original pragmatist options already. The article will review the pragmatist undertones in Putnam's criticism of contemporary epistemology in order to test its promises.

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Il relativismo oggettivo di John H. Randall, Jr.

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NOTE DELL'AUTORE

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1. Storia, storiografia e cultura statunitense

- 1 Nella prefazione al primo volume di *The Career of Philosophy* Randall¹ osservava come la ricostruzione della storia della filosofia moderna da lui avanzata in quell'opera costituisse, di fatto, il primo tentativo da parte di un filosofo statunitense di confrontarsi in modo sistematico con il processo di sviluppo dei concetti filosofici della modernità.² C'erano state traduzioni in inglese di opere straniere come, ad esempio, *The History of Modern Philosophy* di H. Høffding, pubblicata nel 1900; fino a quel momento, però, il mondo americano non aveva ancora espresso una posizione compiuta sull'argomento. E lamentando il fatto che gli Stati Uniti non fossero ancora riusciti a produrre una storia della filosofia dell'epoca moderna, Randall rimarcava come la ricerca storica non possa mai prescindere – per ragioni del tutto essenziali – dal punto di vista di chi la scrive. Era per questo motivo che i filosofi americani non dovevano accontentarsi delle ricostruzioni avanzate da altri, in altri tempi e in altri luoghi. Gli Stati Uniti dovevano assumersi il compito di scrivere la propria storia della filosofia.³
- 2 Non c'è dubbio che, richiamando l'attenzione sulla novità di quell'impresa, Randall intendesse rivendicare i tratti di originalità del proprio approccio rispetto al modo in cui quei problemi erano stati solitamente trattati all'interno del dibattito storiografico statunitense. D'altronde, la scelta teorica di considerare la Modernità e il Medioevo come due momenti di una stessa "carriera" o movimento di pensiero rappresentava

davvero una frattura piuttosto rilevante rispetto ai modelli interpretativi in voga in quel periodo – non da ultima l’interpretazione che del Rinascimento aveva offerto Cassirer e che Randall aveva fortemente criticato.⁴ Quella di Randall non era certamente un’opzione teorica priva di supporto storiografico. La pubblicazione di nuovi studi sulle figure fondanti della modernità – e Randall aveva in mente soprattutto i lavori di Gilson su Cartesio, e in modo particolare gli *Études sur le rôle de la pensée médiévale dans la formation du système cartésien* pubblicati nel 1930 – aveva minato alle basi l’immagine tradizionale di una frattura fra Medioevo ed Età Moderna, ripristinando così con forza la continuità fra le diverse forme di concettualizzazione dell’esperienza prodotte dallo spirito umano lungo la sua storia. Randall aveva intuito le potenzialità di questo paradigma di ricerca e lo aveva esteso allo studio dell’intera filosofia moderna. Su un piano più propriamente teorico, inoltre, la scoperta dei vantaggi euristici di un approccio incentrato sulla lunga durata piuttosto che sull’accentuazione dei momenti di frattura all’interno di una tradizione aveva posto le basi per la formazione di modelli esplicativi generali in grado di fornire una descrizione sufficientemente precisa della struttura dell’evoluzione culturale del pensiero occidentale.

- 3 Ora, secondo Randall l’evoluzione culturale non procede per salti, ma si articola lungo un processo di assimilazione del nuovo attraverso il quale i concetti con cui vengono interpretati gli avvenimenti che scandiscono la vita di una civiltà sono sottoposti a continua revisione e raffinamento. Questo processo di trasformazione e conferma – i cui tratti fondamentali furono descritti per la prima volta in modo compiuto da Dewey nei capitoli iniziali di *La ricerca della certezza* (1966)⁵ – determina la dialettica interna della storia intellettuale dell’Occidente. Nell’età moderna questa struttura generale assume una forma specifica, quella dello scontro fra religione e scienza: la scienza produce nuova conoscenza, e quest’ultima retroagisce sulle convinzioni esistenti generando una tensione fra le scoperte scientifiche e le convinzioni religiose – e politiche e morali, nella misura in cui queste si fondano sulle prime – che definiscono il sentire comune di larga parte della comunità. E se è diventato difficile parlare di dialettica dopo Hegel, osservava Randall in *How Philosophy Uses its Past*, si può comunque parlare di “un dialogo” in cui “il futuro chiede ragione del passato incorporato nel presente e il presente risponde,” dando vita a nuove proposte filosofiche e culturali che rispondono ai bisogni del presente, pur rimanendo fedeli alle testimonianze del passato (Randall 1963: 20).
- 4 A tutta questa complessa rete di riferimenti Randall accennava nella prefazione al primo volume di *The Career of Philosophy*. E tuttavia, il significato dell’esortazione con cui quella prefazione si apre – l’invito ai filosofi americani a scrivere una storia della filosofia in grado di soddisfare le esigenze della loro civiltà – non si esauriva nel semplice riconoscimento dell’originalità delle proprie vedute riguardo la formazione e sviluppo della filosofia moderna. Non consisteva neppure nel riconoscimento della sostanziale correttezza dell’approccio deweyano, sebbene il richiamo a Dewey rappresentasse una chiara indicazione della strada che Randall intendeva seguire per raggiungere il proprio obiettivo. Ciò che in modo più o meno implicito Randall intendeva mettere in luce era il legame indissolubile che univa la sua prassi storiografica a una precisa opzione teorica, alla luce della quale soltanto le scelte interpretative acquisivano senso e ricevevano giustificazione. Questa opzione teorica non poteva che essere, per Randall, la grande tradizione del naturalismo americano e, in modo ancora più preciso, la versione di naturalismo elaborata all’università della

Columbia University sotto la guida di Dewey e Woodbridge, che del dipartimento di filosofia dell'università newyorkese erano stati per molti anni le figure più rappresentative.⁶

- 5 Nelle pagine che seguono si cercherà pertanto di portare alla luce questo complesso intreccio di motivi teorici e storiografici, cercando di chiarire come i secondi si fondino sui primi contribuendo, a loro volta, a ridefinirne il senso e la portata. L'obiettivo ultimo di questo lavoro è di esporre nei suoi tratti fondamentali quella che si potrebbe chiamare la storiografia naturalistica di Randall e, così facendo, evidenziare la ricchezza e duttilità concettuale del naturalismo americano. Nel prossimo paragrafo verranno quindi discusse le principali tesi metafisiche ed epistemologiche di Woodbridge e Dewey che Randall, in modo più o meno esplicito, assumeva come sfondo sia della propria analisi teorica sia della propria prassi storiografica. Successivamente si passerà ad esaminare la teoria della storia a cui Randall era approdato e che aveva esposto in forma compiuta in *Nature and Historical Experience* e in *How Philosophy Uses its Past*. Infine, nella sezione conclusiva verranno prese in considerazione le assunzioni metodologiche che Randall aveva fatto proprie e seguito nella composizione di *The Career of Philosophy*. Attraverso il confronto con approcci storiografici alternativi, si cercherà di mostrare in che cosa consistesse in concreto la specificità della storiografia naturalistica e quali fossero i vantaggi esplicativi che Randall riteneva potessero derivare dalla sua adozione.

2. Metafisica della natura e teoria della conoscenza: la distinzione fra significato ed esistenza

- 6 Come detto, secondo Randall una storiografia filosofica che fosse autenticamente americana doveva assumere come proprio centro prospettico i problemi del mondo americano e come propria metodologia di ricerca le conclusioni epistemologiche raggiunte nel dibattito filosofico statunitense. E, più precisamente, doveva fare propri i temi principali del naturalismo di Dewey e Woodbridge, con particolare attenzione per quella concezione epistemologica a cui solitamente si faceva riferimento con l'espressione "relativismo oggettivo." Ora, che Randall potesse avere una predilezione per quella tradizione di pensiero non era affatto sorprendente: vi erano, al contrario, numerose ragioni biografiche che rendevano quella scelta piuttosto scontata. Ma esistevano altresì ragioni filosofiche che confermavano Randall nella sua convinzione che il naturalismo di Columbia rappresentasse qualcosa di più di una fra le tante opzioni a disposizione.
- 7 Pur muovendo da prospettive teoriche per certi versi opposte, Dewey e Woodbridge erano infatti riusciti a delineare nei loro tratti fondamentali una metafisica e una epistemologia in grado di costituire una plausibile alternativa sia all'idealismo sia al realismo – una terza via che mirava, fra le altre cose, a preservare il nucleo genuino dei comportamenti di senso comune attraverso cui l'esperienza umana acquisisce significato. Per chi, come Randall, cercava un punto di vista che supportasse il peso di una teoria realista della storia – tale per cui non ci fossero pregiudizi filosofici che rendessero teoricamente imbarazzante (almeno in linea di principio) trattare gli eventi storici come aspetti del mondo oggettivo – quella mediazione di temi realisti ed idealisti forniva un'affidabile intelaiatura concettuale.

- 8 D'altronde, il problema di fondo a cui in molti dei loro scritti Dewey e Woodbridge avevano cercato di trovare una soluzione era stato proprio quello di comprendere la possibilità del significato in un mondo come quello descritto dalle scienze naturali. Una determinata interpretazione dei risultati delle scienze fisiche, biologiche e psicologiche – che in altri contesti Santayana non aveva esitato a definire “malicious,” tendenziosa (1905: 84) – aveva messo in dubbio la validità oggettiva della sfera valoriale. Ma se il reale è composto da elementi che hanno una natura brutta, si chiedevano tutti quei naturalisti che non si trovavano affatto a loro agio con un naturalismo aggressivo che rendeva l'essere umano estraneo al proprio mondo, com'è possibile fare esperienza del significato degli oggetti? Da dove deriva, e come si origina, la proprietà degli oggetti di essere significativi per un soggetto – proprietà che è distintiva dell'esperienza umana? E nel caso in cui si sia disposti a riconoscere un certo grado di realtà al regno dei significati, è davvero necessario introdurre una frattura nell'evoluzione naturale per spiegarne la genesi, abbandonando così di fatto ogni pretesa di formulare una teoria naturalista della mente e, di conseguenza, della realtà presa nella sua totalità?
- 9 Il grande dibattito fra realisti (neo-realisti e realisti critici) ed idealisti che ebbe luogo sulle pagine del *Journal of Philosophy* a partire dal 1904 (anno di fondazione della rivista) fino alla fine degli anni '20 e che coinvolse pressoché l'intera comunità filosofica statunitense si riduceva in ultima analisi a un confronto su quale risposta dare a quelle domande.⁷ A quel dibattito Woodbridge e Dewey avevano partecipato in modo attivo, avanzando delle proposte che avevano avuto il merito, se non altro, di chiarire i termini della questione. In particolare, rifacendosi in modo più o meno diretto al principio che aveva ispirato la svolta pragmatista, avevano suggerito di ricondurre il significato alle sue basi empiricamente analizzabili: il significato di un oggetto consiste nell'insieme delle conseguenze che derivano dal suo impiego in diversi contesti esistenziali. Come scrisse in modo molto efficace Woodbridge, il fatto di conoscere un oggetto non ne muta la natura: l'acqua non diventa acqua o cessa di esserlo per il fatto di essere conosciuta (Woodbridge 1905: 122).⁸ Ma nel momento in cui entra a far parte dell'esperienza umana un oggetto acquisisce delle proprietà nuove – proprietà di natura “semantica,” ovvero legate al significato che esso ha per il soggetto agente – grazie alle quali può essere usato per raggiungere fini che non sono spiegabili semplicemente nei termini delle proprietà “strutturali” che lo definiscono in quanto esistente.⁹
- 10 Sottolineando l'irriducibilità del regno del significato al piano dell'esistenza Woodbridge e Dewey ottenevano due risultati distinti ma essenzialmente interdipendenti. Da un lato, sgomberavano il campo dai numerosi equivoci che impedivano di apprezzare la fecondità teorica di una concezione prospettivista della conoscenza; dall'altro preparavano il terreno per una metafisica del processo che era allo stesso tempo una concezione processualista del significato degli eventi. Alla luce del quadro concettuale di riferimento diventava infatti possibile ammettere la dipendenza della conoscenza da un determinato punto di vista senza dover per questo accettare le conclusioni scettiche o solipsistiche che tradizionalmente erano state associate a quella tesi. Se il significato di un oggetto è l'insieme delle sue conseguenze, dal momento che un oggetto può essere usato in molti modi il suo significato assumerà di volta in volta fisionomie diverse a seconda dei diversi contesti d'uso in cui quell'oggetto viene impiegato. Così, scriveva Dewey in *The Postulate of Immediate Empiricism*, lo stesso cavallo sarà descritto ed esperito in modi diversi dal venditore di

cavalli, dal fantino, dall'acquirente che vuole un animale docile o dallo studioso di zoologia (Dewey 1905: 393). Non c'è nulla di soggettivo in un tale pluralismo dei punti di vista: l'oggettività delle varie prospettive è assicurata dal fatto di essere quelle prospettive funzione delle condizioni biologiche di alcuni enti naturali particolarmente complessi da giungere allo stadio di autocoscienza. E lungi dall'essere stati soggettivi e privati di una mente, gli interessi e i bisogni che stanno alla base e rendono concreti i vari punti di vista sono fatti biologici – condizioni fisiologiche di un organismo – e, come tali, descrivibili dalle scienze naturali. La possibilità per un oggetto di avere significato dipende quindi, in ultima analisi, dall'esistenza di un organismo con cui quell'oggetto entra in relazione – un rapporto che l'ultimo Dewey definirà “transazione” allo scopo di mettere in luce la reciproca co-determinazione dei fattori in gioco (Dewey & Bentley 1974, cap. 4). Il soggetto cosciente è un organismo che costituisce i suoi significati agendo nel mondo e costruendo strumenti che gli consentono di istituire connessioni fra oggetti ed eventi. A sua volta il mondo supporta queste azioni, selezionando quelle forme generali che individuano complessi validi di relazionalità (*relatedness*). In questo senso, i significati sono strutture reali ed oggettive del mondo in cui convergono la creatività del soggetto agente e le potenzialità dell'ambiente circostante.

- 11 Tutte queste tesi epistemologiche avevano ovvie ricadute metafisiche. Infatti, se il significato di un oggetto non è mai una totalità chiusa, ma si definisce di volta in volta nei termini dei contesti d'uso in cui viene impiegato, ne segue che la natura di un oggetto è indissolubilmente legata alla dimensione temporale in cui si articola la sua vicenda storica. Su questo punto aveva richiamato l'attenzione Woodbridge in un importante testo pubblicato nel 1916 ed intitolato *The Purpose of History*. Tesi del libro era che cronaca e storia non dovessero essere confuse: cronaca è la registrazione di ciò che accaduto; storia, invece, è la narrazione del processo di sviluppo del significato di quell'evento che, in quanto esistenza, è qualcosa di compiuto nel tempo. Non c'è dubbio che, almeno in linea di principio, sia possibile dire come si è svolto un determinato fatto, ma la comprensione del suo significato – e, di conseguenza, del suo valore per chi lo assume come oggetto di studio – è essenzialmente connessa alla presa di distanza dalla sua immediatezza come semplice esistenza. Per questa ragione Woodbridge affermava che noi ora siamo in grado di conoscere il mondo greco meglio di quanto potessero fare i greci: lo conosciamo meglio perché il mondo greco ha avuto occasione di manifestare il proprio significato nella storia successiva, dispiegando – almeno in parte, dato che il processo è essenzialmente infinito – la propria potenzialità semantica (Woodbridge 1916: 12).
- 12 Ogni evento si contraddistingue dunque per un certo grado di potenzialità, il quale risiede nella sua capacità di influenzare (causalmente o simbolicamente) gli eventi successivi. Fra questi eventi è certamente da annoverare l'attività di chi ripercorre gli accadimenti per coglierne il significato. L'esperienza umana infatti non è un velo che separi l'uomo dalla natura, ma è il “luogo” in cui la natura si rivela come significante.¹⁰ E la ragione ultima per cui la realtà storica è aperta all'indagine è proprio perché il presente in cui chi fa storia ha il proprio punto di appoggio è il risultato di un processo causale – o simbolico, nel caso in cui gli oggetti a cui si fa riferimento siano oggetti culturali – che lega ciò che è stato a ciò che è ora. D'altronde, aveva osservato Dewey in un articolo del 1907 intitolato *La realtà come esperienza*, “a meno di introdurre un qualche tipo di realtà eterogenea la realtà antecedente procede sempre ed in ogni istante in direzione dell'esperienza” (Dewey 2008: 72). Un'esperienza che nello stesso

tempo preserva e distrugge, e preserva proprio nella misura in cui distrugge: ciò che sopravvive del passato in una certa epoca, ed è vitale per essa, è ciò che di volta in volta è ritenuto utile per risolvere problemi contemporanei.

- 13 La teoria naturalista del significato aveva quindi inscritto in se stessa il problema di comprendere la storicità dell'esperienza umana. Merito di Randall fu quello di elaborare, sulla scorta delle riflessioni di Woodbridge e Dewey, un'ontologia dell'essere storico che rendeva esplicito quello che fino a quel momento era rimasto implicito e inarticolato.

3. Teoria generale della storia: la struttura dell'essere storico

- 14 Alla luce di quanto detto in precedenza, l'intuizione che fonda il naturalismo umanista di Dewey e Woodbridge si può riassumere così: attraverso l'attività creativa di costruzione dei significati gli esseri umani portano a termine l'unificazione degli eventi, la cui possibilità è insita (almeno in potenza) nella struttura stessa della natura, rendendo così maggiormente significativo il mondo che fa da sfondo alle loro azioni e passioni. Questo aspetto rivestiva per Randall un'importanza decisiva: "il mondo," così recita un passo di *Nature and Historical Experience*, "è incontrato come plurale e [...] si concede alle unificazioni attraverso il funzionamento dei Connettivi" (Randall 2008a: 198). Con il termine "connettivo" Randall intendeva riferirsi ad ogni forma di costrutto concettuale che, istituendo relazioni oggettive fra elementi diversi, produce una sintesi che contribuisce alla crescita dell'unità dell'esperienza. Miti, simboli, ideali regolativi, ipotesi scientifiche, sistemi filosofici: tutti questi non sono altro che diversi modi attraverso cui gli uomini razionalizzano il mondo.¹¹
- 15 La storia è una forma di queste forme di unificazione e oggettivazione del reale. Ora, siccome l'attività di costruzione dei significati per mezzo di connettivi – un'attività che Randall riteneva essere strettamente connessa con l'uso del linguaggio – non è altro che un processo di selezione di aspetti del reale grazie al quale la potenzialità intrinseca in questi ultimi viene attualizzata in un certo schema o sistema di intelligibilità, non soltanto alla storia veniva riconosciuta una portata oggettiva, ma le si attribuiva il compito di articolare uno dei modi generali in cui la natura si presenta all'esperienza umana. Teoria della storia era dunque quella disciplina filosofica che doveva assumere come proprio oggetto d'indagine la proprietà degli oggetti di avere natura e qualità storica, e cercare di spiegarne i tratti caratteristici. E dal momento che tutti i processi di unificazione sono reali – nel senso tecnico di essere momenti in cui il reale raggiunge un determinato grado di sviluppo – la teoria della storia si configurava come una branca della metafisica il cui compito era di analizzare ciò che tutte le storie (umane e naturali) hanno in comune in quanto storie, allo stesso modo in cui la teoria della natura – e qui Randall aveva in mente la metafisica aristotelica¹² – era stata progettata come un'analisi dei processi naturali rivolta ad enucleare i tratti fondamentali di questi processi che rendono possibile la loro comprensibilità.
- 16 Nello specifico, la teoria della storia doveva rispondere a tre diverse domande:
- a) una domanda ontologica sull'essenza e la struttura della conoscenza storica e degli oggetti storici;
 - b) una domanda più propriamente epistemica concernente il modo in cui si possa avere

accesso alla storia delle cose;

c) ed infine una domanda strettamente epistemologica riguardante la capacità esplicativa della storia – detto in altri termini, come la storia sia in grado di far comprendere e spiegare quelle cose che possiedono quella storia.¹³

- 17 Le risposte a questi tre gruppi di problemi definivano le coordinate fondamentali di una teoria generale della storicità e ponevano le basi per ogni possibile indagine storiografica, indipendentemente dalla materia presa in considerazione – ovvero, indipendentemente da che tipo di storia si cercasse di scrivere (Randall 1958a: 35). Convinzione di Randall era che un tale grado di astrazione fosse effettivamente possibile. Infatti, sebbene non si dovesse certamente negare l'importanza dell'aspetto più propriamente tecnico del lavoro storiografico – ciò che Randall raccoglieva sotto l'etichetta di “discipline ancillari” del processo di interpretazione dei documenti (*ibid.*: 34) – quel livello fondamentale della ricerca rivolto al puro accertamento dei fatti poteva essere dato per scontato in una riflessione filosofica, dal momento che non presentava difficoltà di ordine teorico.
- 18 Cominciamo dunque dalla prima delle tre domande formulate in precedenza, non soltanto perché è la più generale, ma anche perché è quella a cui è più facile dare risposta alla luce di quanto detto finora. Si è accennato in precedenza che per Randall – che da questo punto di vista accettava senza riserve le conclusioni che Woodbridge aveva esposto in *The Purpose of History* – la storia non poteva essere ricondotta alla semplice cronaca di eventi passati perché la storia non è semplice registrazione di esistenze ma interpretazione di significati. Ma Randall era ben conscio anche del fatto che, in quanto dimensione strutturalmente semantica, la storia doveva presentare un carattere necessariamente ancipite. Da un lato, infatti, la storia fa riferimento all'atto sintetico del soggetto in cui si costituiscono i significati, dall'altro rimanda alla concreta configurazione del materiale che viene articolandosi in quell'atto sintetico. Così, si legge in *Nature and Historical Experience*, storia è “notoriamente una parola a due facciate”: “significa sia ciò che è accaduto, *Geschichte* [...] sia la conoscenza e l'affermazione di ciò che è accaduto, *historia*.” (*Ibid.*: 29).
- 19 Randall non era certamente il primo ad avere notato la duplice natura del concetto di storia e ad averle attribuito rilevanza teorica.¹⁴ Ciò che rendeva il suo approccio originale non era quindi la tesi sostenuta, ma il linguaggio in cui quella tesi era formulata e, di conseguenza, il quadro concettuale complessivo entro cui essa veniva inscritta e compresa. Da questo punto di vista, l'espressione “parola a due facciate” (*double-barreled word*) è rivelatrice.
- 20 Com'è noto, nelle pagine iniziali di *Esperienza e natura* Dewey aveva cercato di delineare i tratti fondamentali della nozione di esperienza. Nel tentativo di sciogliere il legame che aveva tradizionalmente congiunto esperienza e soggettività, trasformando la prima in una serie di eventi privati che accadono nella mente di un individuo, Dewey aveva ribadito che l'esperienza possiede una struttura ben più complessa di quanto si è solitamente ritenuto. Esperienza comprende “ciò che gli uomini fanno e soffrono, ciò che ricercano, amano, credono e sopportano, e anche il modo in cui gli uomini agiscono e subiscono l'azione esterna, i modi in cui essi operano e soffrono, desiderano e godono, vedono, credono, immaginano, cioè i processi dell'*esperire*” (Dewey 1990: 26). Da questo punto di vista, è in tutto e per tutto identica a quelle che Dewey chiamava “le sue realtà congeneri,” ovvero vita e storia. E per denotare la capacità di riferirsi contemporaneamente sia all'attività creativa del soggetto sia all'indipendenza e

oggettività del mondo che viene incontrato nell'esperienza usava precisamente l'espressione "parola a due facciate."

- 21 Utilizzando la terminologia deweyana Randall indicava dunque nel naturalismo di Columbia l'orizzonte concettuale delle proprie riflessioni storiografiche. Quella scelta – terminologica prima ancora che concettuale – mirava a prendere le distanze da alcune tendenze interpretative contemporanee che avevano sì riconosciuto la duplicità caratteristica della storia, ma ne avevano frainteso il senso e la portata teorica. Non c'è dubbio, osservava Randall, che sia molto difficile sostenere una posizione realistica riguardo alla conoscenza storica, tanto più che lo storico non ha a che fare con eventi in carne ed ossa ma soltanto con materiali che di quegli eventi sono una registrazione. La conoscenza e costituzione degli eventi passati e del loro significato – due elementi che, significativamente, Randall non distingueva – è un tipo di interpretazione in cui giocano un ruolo centrale gli interessi e le categorie dello storico, un ruolo che è più importante del modo in cui quegli stessi eventi furono compresi quando ebbero luogo. Avevano ragione pertanto gli idealisti a sottolineare come la conoscenza storica porta in luce la struttura soggettiva propria di ogni atto comprendente. Ma avevano torto a ritenere che la constatazione di questo fatto supportasse conclusioni volte a mettere fuori gioco ogni riferimento ai concetti di verità e oggettività. In realtà, ciò che ne consegue è soltanto la necessità di abbandonare una concezione ingenua di oggettività secondo cui un'entità logica – un concetto, un giudizio, una teoria – per essere valida debba rispecchiare fedelmente un oggetto che è formato indipendentemente dagli atti di apprensione di un soggetto.
- 22 Randall era chiaro su questo punto: non esistono fatti storici che si impongono all'attenzione dello storico come una dataità che deve essere semplicemente accettata e accolta. In quanto agglomerati di potenzialità, tutti gli eventi sono semanticamente infiniti, per così dire, e possono essere utilizzati come materiale grezzo per indagini sempre nuove: è soltanto il modo in cui vengono classificati – cioè, utilizzati in un contesto di indagine – che li rende significativi e li costituisce come oggetti di un certo tipo. È quindi il riferimento all'insieme delle ipotesi e categorie concettuali assunte come orizzonte teorico dell'indagine storica che rende un determinato evento un fatto storico.
- 23 La distinzione fra evento (o cosa) ed oggetto (o fatto) era tipicamente deweyana. Nel quinto capitolo di *Esperienza e natura* Dewey aveva osservato che, quando entrano in gioco la comunicazione e il linguaggio, gli eventi naturali subiscono un processo di trasformazione talmente radicale da far impallidire la transustanziazione. Nel linguaggio, infatti, "[g]li eventi diventano oggetti, cioè delle cose con significato" (*ibid.*: 131). Randall accettava di buon grado questa definizione, ma la utilizzava per raggiungere un obiettivo più limitato di quello che aveva perseguito Dewey nel suo tentativo di offrire una storia naturale della genesi del significato – un approccio che era più vicino, per molti versi, alle analisi che Dewey stesso aveva condotto nella sua *Logica*. Non una teoria generale dell'oggetto, ma una concezione funzionale dell'oggetto e dell'oggettività scientifica era ciò che gli premeva formulare. Scriveva dunque Randall: "i 'fatti' non sono i 'dati' bruti, ma sono eventi che possiedono un *significato* soltanto in quanto *prove* di qualche idea o teoria, e sono normalmente scoperti soltanto attraverso l'uso di questa idea." (Randall 1958a: 34-5). Alla base del significato di un oggetto scientifico – o teorico, nel caso in cui scientifico richiamasse troppo direttamente alla mente il tipo di oggettività propria delle scienze della natura –

risiedono atti di selezione attraverso cui lo storico dà senso al materiale grezzo che ha sotto mano, istituendo gruppi di relazioni che esemplificano le ipotesi generali assunte come cornice concettuale di riferimento. In questo modo si definiscono oggetti di tipo nuovo il cui significato è determinato interamente dalle condizioni teoriche che presiedono alla loro costituzione.

- 24 È alla luce di queste ultime affermazioni che diventa chiaro perché l'opzione naturalista rivestisse un ruolo così rilevante nell'economia del pensiero di Randall. L'insistenza sulla naturalità dei significati – sul fatto, cioè, che ciò che si articola attraverso le categorie della scienza storica è una struttura oggettiva della realtà che, attraverso quel processo di articolazione, riceve un nuovo significato – andava a stemperare una tendenza della riflessione storiografica che poteva apparire tanto più suggestiva quanto più la storia si presentava effettivamente come luogo in cui la creatività dello storico era predominante rispetto alla datità del materiale. Il riferimento a quella cornice concettuale marcava infatti la differenza fra il relativismo oggettivo e quelle forme di idealismo e costruttivismo più o meno radicale con cui spesso quello venne confuso.¹⁵ È vero che in un atto di conoscenza nuovi oggetti e nuovi significati si costituiscono – e Randall insisteva su questo punto – ma ciò non significa affatto che la conoscenza possa prescindere dalla considerazione della natura del proprio materiale. Il processo di costituzione dell'oggetto scientifico – e dell'oggetto storico in quanto oggetto scientifico – deve essere concepito, piuttosto, come un processo di trasformazione e ricostruzione del significato degli eventi attraverso il loro inserimento in un quadro interpretativo nuovo che rivela, attualizzandole, potenzialità non ancora sfruttate.
- 25 Tutto ruota attorno, quindi, al processo di selezione con cui lo storico sceglie e realizza qualcuna fra le infinite relazioni oggettive che caratterizzano gli eventi nella loro irripetibilità esistenziale. Ma questa scelta, secondo Randall, non è né può essere arbitraria. Essendo lo storico “invischiato” (*entangled*) nella rete di significati naturali che legano fra loro i vari oggetti, la sua attività di scelta è legata allo specifico contesto in cui ha origine: “la conoscenza è ‘obiettiva’ soltanto per qualche determinato contesto” perché “è sempre una conoscenza della struttura e delle relazioni essenziali per quel contesto.” In ultima analisi, dunque, l'atto di selezione si rivela valido se e solo se i significati naturali scelti come chiave interpretativa di un determinato fatto storico sono proprio quegli eventi che hanno contribuito a produrlo. La conoscenza è sì relativa a un punto di vista, ma rispetto a quel punto di vista è completamente obbiettiva.¹⁶
- 26 È opportuno osservare come la scoperta della relatività oggettiva della conoscenza non consentiva soltanto a Randall di fare i conti una volta per tutte con la tradizione idealista e di elaborare una teoria della storia che fosse pluralista, relativista ed oggettiva. Gli offriva anche una solida base per analizzare la forma specifica in cui la storia si rende accessibile epistemicamente a un soggetto che ne fa esperienza. L'assunzione da cui Randall muoveva per trovare una risposta a questo problema – che corrisponde alla seconda delle domande elencate in precedenza – era che ciò che esiste è soltanto il tempo presente in cui lo storico conduce la propria ricerca. Questa intuizione fondamentale derivava direttamente dalla concezione naturalista del tempo e coglieva due tratti caratteristici dell'indagine storiografica. Da un lato, esprimeva con chiarezza l'idea che la conoscenza storica dipende dal punto di vista dell'osservatore. Esistono problemi oggettivi che si impongono all'attenzione dello storico ed esigono una risposta: questi problemi, insieme al linguaggio ereditato dalla comunità scientifica

a cui si appartiene, definiscono l'orizzonte entro cui egli si muove e le modalità entro cui l'oggetto storico gli si può rivelare. Ogni storia è dunque storia contemporanea poiché il significato del passato cambia in continuazione con il sorgere di nuovi eventi e assume una forma sempre nuova alla luce degli interessi sempre nuovi di chi quel passato cerca di comprendere.¹⁷ Dall'altro, però, dava conto in modo appropriato della dipendenza della conoscenza storica dalle fonti disponibili. Essendo la conoscenza non contemplazione, ma prassi, attività, esperimento (Randall 1958a: 16), la possibilità di comprendere il significato del passato dipende essenzialmente dalle concrete operazioni che possono essere svolte sui documenti e monumenti a cui lo storico ha effettivamente accesso. Il presente è "il materiale (subject-matter) che può essere direttamente esperito e trattato, esaminato, analizzato e usato per testare e verificare ipotesi" poiché il presente include, fra le altre cose, tutte le registrazioni del passato: "tavole astronomiche, stratificazioni geologiche, resti fossili, depositi archeologici, documenti scritti e monumenti." (*Ibid.*: 48).¹⁸

- 27 Si può dunque parlare correttamente di presentismo a proposito della teoria della storia di Randall, individuando così nel presente il luogo d'accesso alla dimensione storica dell'esperienza. Ma deve essere chiaro che con "presente" non si intende un istante nettamente distinto dal passato e dal futuro, bensì il punto di vista a partire dal quale lo storico costruisce quello che Randall chiamava il passato e il futuro *previsti*, ossia quelle sezioni del passato e del futuro che sono ritenute importanti – alla luce di un determinato schema concettuale e in riferimento a un determinato contesto – per la comprensione di un fatto. Attraverso questo meccanismo di costruzione di un orizzonte temporale di significato diventa possibile distinguere ciò che ha rilevanza e ciò che invece è accidentale all'interno di un processo storico.
- 28 Ciò che è importante notare è precisamente la duplice natura – Randall parlava di "doppio movimento" – dell'intelaiatura concettuale che consente e supporta l'interpretazione dei fatti storici. La comprensione di un evento richiede in primo luogo una decisione circa ciò che è vitale nel presente. Lo storico deve scegliere, fra le varie possibilità che gli si offrono, quale sia la tendenza dominante che controlla il processo storico. In questo modo, individuando la causa finale a cui quel presente è subordinato, è in grado di elaborare dei criteri che gli consentono di discriminare i fatti storici che devono essere presi in considerazione. Muovendo dal presente e guidato da una previsione – ovviamente fallibile – circa il futuro, lo storico va in cerca di quel materiale che spiega la genesi del fatto storico sotto osservazione. Ricostruzione scientifica e predizione scientifica; causa efficiente e causa finale; passato previsto e futuro previsto: queste tre coppie concettuali sono tre modi diversi di descrivere i due vettori di uscita dal presente (*outward movement from the present*) grazie ai quali soltanto è possibile comprenderlo.¹⁹
- 29 E veniamo dunque alla terza e ultima domanda a cui, secondo Randall, una teoria della storia deve dare risposta – ovvero la questione strettamente epistemologica riguardante la capacità esplicativa della storia. Come detto, la definizione in termini funzionali delle nozioni di passato e futuro rappresentava un'acquisizione teorica importante che confermava Randall nella sua convinzione che una prospettiva realista ingenua dovesse essere abbandonata. Ma l'adozione di una prospettiva relativo-oggettivista esigeva, di rimando, una ridefinizione di numerosi concetti e una sostanziale revisione dell'apparato teorico della disciplina. Una tale revisione era la testimonianza del fatto che la storia stava lentamente trasformandosi in scienza. In

particolare, una delle conseguenze della particolare forma di presentismo a cui Randall era pervenuto era la messa in crisi dell'idea di senso comune che il passato potesse essere considerato causa del presente e, di conseguenza, che la storia ci permetterebbe di capire come sono accaduti i fatti. In diverse occasioni Randall aveva sottolineato con forza che quell'affermazione non era altro che una tautologia. Non è la storia, infatti, che spiega un determinato fatto, ma la scienza. Randall aveva qui in mente soprattutto il processo di applicazione della scienza economica e delle scienze sociali allo studio della storia che stava prendendo piede nella storiografia a lui contemporanea, ma il punto che faceva valere era più generale e poggiava sulla constatazione della differenza fra l'individualità del corso storico e l'universalità dei concetti che sono necessari per la sua comprensione (Randall 1958a: 47).

- 30 Ogni evento storico è unico ed irripetibile e, in quanto tale, sfugge alla comprensione. L'unica possibilità di renderlo intellegibile è quindi di rinvenire delle regolarità che operano al suo interno e lo rendono assimilabile ad infiniti altri eventi dello stesso tipo. Queste regolarità sono ciò che Randall chiamava "processi." "La storia di una cosa," osservava Randall in un luogo teoricamente molto denso, "è il risultante o il precipitato di quei processi complessi che hanno generato quella cosa." E aggiungeva: "si può dire che la storia di una cosa faccia parte della sua causa formale [...], ma ciò che una cosa è non l'ha mai *resa* ciò che è." (*Ibid.*: 46). Sono i processi che fanno le cose e sono i processi pertanto ad essere oggetto della scienza, dove per processo Randall intendeva la manifestazione di un invariante, di un modo di operare la cui struttura è una legge o un universale.
- 31 Processi sono, ad esempio, gli abiti tecnologici, economici, sociali, intellettuali, politici che caratterizzano la forma delle varie organizzazioni e istituzioni. Sul piano della storiografia filosofica, esempi di strutture generali di spiegazione del cambiamento intellettuale sono il ritorno all'esperienza pura come strumento di critica delle astrazioni concettuali, il passaggio all'interno di una tradizione di pensiero dalla fiducia nella ragione a forme più o meno radicali di scetticismo, l'assunzione di una certa tradizione nazionale come orizzonte teorico della propria riflessione filosofica.²⁰ È la scoperta dei processi generali che agiscono e determinano la vita delle cose dunque che fornisce la risposta alla terza domanda sollevata dalla teoria della storia, quella riguardante la capacità esplicativa della storia. Le unità epistemologiche di base che devono essere rinvenute nelle storie sono le strutture generali e continuamente ricorrenti che operano alla loro formazione.

4. Prassi storiografica: cosa dev'essere una storia della filosofia

- 32 L'analisi del conoscere storico che Randall aveva intrapreso in *Nature and Historical Experience* metteva capo ad una concezione storiografica radicalmente innovativa in cui venivano poste in primo piano la soggettività del punto di vista dello storico e la capacità dei significati di ridefinirsi continuamente per far fronte a eventi nuovi che sfidano e smuovono l'equilibrio raggiunto. La stessa teoria epistemologica era, come vedremo, un punto controverso che serviva a prendere le distanze da approcci alternativi. Ma la radicalità di quelle tesi non si misurava sul piano teorico; la loro portata innovativa era dovuta al fatto che la conoscenza ottenuta in sede di riflessione

metodologica poneva dei vincoli alla prassi storiografica. Come accennato in precedenza, la loro radicalità consisteva nell'aver dato vita a *The Career of Philosophy*.

- 33 Ora, che *The Career of Philosophy* fosse una storia della filosofia scritta seguendo una precisa intuizione teorica fu chiaro sin da subito a tutti e fu uno dei punti su cui si concentrarono le critiche di chi non condivideva l'interpretazione della storia della filosofia moderna in termini di un confronto dinamico fra credenze scientifiche e credenze religiose, politiche e sociali ereditate da periodi storici precedenti la scoperta del metodo sperimentale di indagine. Randall stesso aveva ammesso con onestà la parzialità del proprio punto di vista quando aveva riconosciuto il proprio debito nei confronti della concezione della storia della filosofia di Dewey e, più in generale, del naturalismo e relativismo oggettivo di Columbia. Certo, Randall era convinto che la sua teoria storiografica avesse gli strumenti per metterlo (almeno in parte) al riparo dalle critiche. Lo scontro fra scienza e tradizione come due fonti diverse e altrettanto valide di conoscenza aveva costituito il tratto fondamentale dell'epoca moderna ed era quindi piuttosto naturale ritenere che i problemi sollevati da quella tendenza – che era stata effettivamente dominante in quel contesto storico – si imponessero alla riflessione storica come i più urgenti. Detto in altri termini: dal momento che Randall riteneva di aver scoperto il processo generale che aveva dato origine alla modernità e ne aveva costituito il tratto specifico, la sostanziale mancanza di problematicità a livello della predizione metteva in sicurezza i risultati ottenuti sul piano della ricostruzione.
- 34 Nonostante questo, però, Randall non poteva escludere che le critiche rivolte al suo lavoro potessero essere legittime: non poteva escludere – per ragioni interne al modo stesso in cui aveva impostato il suo discorso storiografico – che potessero esservi modi diversi e altrettanto legittimi di concepire la stessa materia.²¹ Lo stesso impianto concettuale del lavoro, imperniato sulla nozione di carriera, era profondamente dipendente da assunzioni teoriche generali e, in questa misura, aperto a possibili obiezioni. Ciò che però Randall non poteva accettare era una prassi storiografica fondata su una teoria della storia incapace di riconoscere la particolare natura del significato e che, come conseguenza di questa confusione, cercava di spiegare la complessità del processo di crescita dei concetti nei termini di una combinazione di elementi strutturalmente più semplici. Ciò che Randall non poteva accettare era, insomma, una storia della filosofia che muoveva da assunzioni tali da negare la specificità caratteristica dell'oggetto che doveva spiegare.
- 35 L'obiettivo polemico che Randall aveva in mente era la storia delle idee di Lovejoy. Nell'*Introduzione a La grande catena dell'essere*, intitolata significativamente *Lo studio della storia delle idee*, Lovejoy aveva esposto in modo conciso la metodologia che intendeva utilizzare nel suo lavoro. La storia delle idee opera sezionando i sistemi filosofici fino a risolverli “nei loro elementi compositivi, fino a quelle che si potrebbero chiamare le loro idee unità.” E aveva giustificato questo approccio osservando che ogni filosofia è “un aggregato composito ed eterogeneo” di “idee-unità” che si ripresentano sempre uguali nei diversi corpi dottrinali (Lovejoy 1966: 11). Per questa ragione, concludeva Lovejoy, si può affermare che ciò che c'è di originale nelle diverse teorie filosofiche non sono le idee-unità impiegate, che sono ovunque le medesime, ma la struttura complessiva in cui quelle sono accomodate.
- 36 Nella sua recensione a *La grande catena dell'essere* Randall affrontava in modo diretto la questione della validità teorica e del valore euristico di questo approccio. L'incapacità di Lovejoy di costruire una “tavola periodica” delle idee-unità non era ai suoi occhi la

ragione principale di insoddisfazione (Randall 1938: 214). Il vero problema era che quel metodo non offriva una storia delle idee ma si limitava a delineare una lista di casi particolari ed esemplificazioni di quelle idee. Così facendo, evitava però – e in modo programmatico – di spiegare le ragioni della loro diffusione, del loro cambiamento e della loro permanenza nella vita culturale dell'umanità. Evitava cioè di dar conto della loro natura di significati. Lovejoy non era dunque uno storico, ma un analista, e la storia delle idee non era storia, ma cronaca – o, nel migliore dei casi, storia positivista, puro accertamento di fatti. Un lavoro meritorio, sicuramente, ma distinto dalla storia come lo può essere il semplice accertamento dei fatti.

- 37 Un'autentica *storia* delle idee, ribadiva Randall, non doveva assumere come propri elementi ultimi idee-unità di cui è difficile determinare persino l'esistenza, ma strutture interamente articolate come le tradizioni nazionali, ovvero “grandi complessi di idee connesse e legate insieme in tradizioni storiche che si influenzano reciprocamente in modo tale che quando una di esse è modificata si verifica una riverberazione su tutta la struttura” (*ibid.*: 218). Allo stesso modo lo studio dei sistemi filosofici dei singoli pensatori doveva procedere dalla scoperta del compito – e per esprimere questo punto Randall prendeva in prestito il concetto cassireriano di *Aufgabe* – che quel filosofo si era proposto di portare a termine e che aveva guidato la sua riflessione. Soltanto un approccio di questo tipo, incentrato sulla scoperta del principio di unità che lega insieme le diverse manifestazioni in un tutto dinamico, consentiva di *comprendere* il processo di produzione e crescita dei significati.
- 38 Ma è evidente che Lovejoy non potesse essere veramente scosso nelle sue convenzioni da queste obiezioni. E la ragione di questa indifferenza alle critiche *storiografiche* di Randall è da ricercarsi nel fatto che Lovejoy non condivideva la concezione *filosofica* del significato che Randall aveva posto alla base del suo lavoro di storico. In *Pragmatism versus The Pragmatist* Lovejoy si era opposto con risolutezza alla teoria della conoscenza deweyana e aveva criticato Dewey proprio sul piano della comprensione della storia (Lovejoy 1920).²² Aveva quindi elaborato una teoria del significato alternativa, fondata sulla nozione di *essenza*. Essenza – e Lovejoy seguiva Santayana su questo punto – è qualsiasi contenuto concettuale discreto e non sottoposto a cambiamento la cui apprensione da parte di un soggetto consente la conoscenza dell'oggetto. Era dunque una differenza filosofica – e non storiografica – quella che motivava le diverse metodologie di lavoro adottate da Randall e Lovejoy: da una parte una teoria del significato dinamica, dall'altra una teoria che negava la possibilità stessa di un tale movimento; da una parte una concezione analitica della conoscenza, dall'altra una concezione sintetica incentrata sul ruolo delle relazioni.
- 39 Questa differenza – tutta interna al dibattito filosofico americano della prima metà del ventesimo secolo – segna il limite oltre cui le argomentazioni storiografiche non possono andare. Legando così strettamente il proprio lavoro storiografico alle vicende del naturalismo americano, Randall era costretto a riconoscere che la riflessione storiografica non era in grado di fondare se stessa, ma dipendeva dalla validità teorica della concezione filosofica che la fonda. Ma questa conclusione non rappresentava affatto un problema dal suo punto di vista: al contrario, era una conferma della correttezza della tesi secondo cui il presente è l'unica modalità di accesso al passato.

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NOTE

1. Alcune informazioni biografiche su John Hermann Randall, Jr., possono essere utili per comprendere i tratti principali della sua riflessione storiografica. Nacque in Michigan, a Grand Rapids, il 14 febbraio 1899 e studiò all'università di Columbia dove seguì i corsi, fra gli altri, di Charles Beard e James Harvey Robinson, laureandosi nel 1919. Presso la stessa università conseguì il dottorato nel 1922 e vi insegnò successivamente per tutta la vita. Studioso del Rinascimento e, in particolare, della scuola patavina, si occupò anche di filosofia antica e medievale e scrisse importanti saggi di teoria della storia, metafisica e filosofia del linguaggio, tutti raccolti nel volume *Nature and Historical Experience. Essays in Naturalism and in the Theory of History* (1958). Morì a New York il primo dicembre del 1980. Oltre alle opere già citate sono da ricordare *The Making of Modern Mind* (1940²), *The Role of Knowledge in Western Religion* (1958), *The School of Padua and the Emergence of Modern Science* (1961), *Aristotle* (1960) e *Plato: Dramatist of the Life of Reason* (1970). Per ulteriori informazioni bibliografiche si rimanda a Anton, *John Herman Randall, Jr. A Biographical Sketch* (1967: vii-ix). Per un inquadramento generale della teoria della storia di Randall, si consiglia invece Tejera (1989: 215-36). Dal momento che nessun testo di Randall è mai stato tradotto in italiano, tutte le traduzioni che compariranno nell'articolo sono opera mia.

2. *The Career of Philosophy* si compone di due volumi, pubblicati rispettivamente nel 1962 e nel 1965. Il primo dei quali analizza la storia della filosofia moderna a partire dalla considerazione delle tre teorie della conoscenza ereditate dal pensiero medievale (la filosofia agostiniana, la tradizione aristotelica e la *via moderna* inaugurata da Ockham) fino alla nascita di una scienza sociale con Montesquieu, Vico e Rousseau. Il secondo volume si concentra sulle vicende dell'idealismo tedesco a partire da Kant e si conclude con una rapida disamina della filosofia britannica prima della pubblicazione dell'*Origine delle specie* di Darwin. A questi due volumi se ne aggiunge un terzo, pubblicato nel 1977 con il titolo *Philosophy after Darwin*, in cui sono raccolti diversi saggi che Randall dedicò ad autori contemporanei quali Bradley, T. H. Green, Cassirer, Dewey. Il rapporto fra i primi due volumi e il terzo (che Randall non riuscì a portare a termine a causa della malattia che lo condusse alla morte) non è però di continuità, sebbene l'ultimo rechi come sottotitolo *Chapters for The Career of Philosophy Volume III*. Come osservava con chiarezza Randall in *Conflict with the Religious Tradition*, capitolo introduttivo di *Philosophy after Darwin*, la filosofia moderna rappresentava una vicenda che si era conclusa – e Randall indicava il 1920 come anno spartiacque – con il venire meno della centralità del problema della conoscenza, ovvero il problema di coniugare conoscenza religiosa e conoscenza scientifica. Scriveva dunque Randall, in forte continuità con l'impostazione deweyana: "il 'problema religioso' com'era avvertito nel diciannovesimo secolo è semplicemente scomparso dal discorso filosofico [...]. Per noi, 'religione' non ha a che fare con le credenze intellettuali, ma è un'organizzazione della vita umana, come l'arte o la morale, qualcosa da usare, godere, vivere, qualcosa di naturale non diverso dal resto della vita." Randall (1977: 9-10). In questo diverso modo di concepire la religione si misura tutta la distanza fra la filosofia moderna e la filosofia contemporanea.

3. "Per la storia della filosofia in modo particolare è vero che ogni nuova generazione vede il passato alla luce dei propri problemi intellettuali [...]. Sembra esserci spazio per il tentativo di scrivere una storia della filosofia moderna dal punto di vista della filosofia americana di metà

secolo e non dalla prospettiva dell'idealismo del tardo diciannovesimo secolo." Randall (1962: vii).

4. Si veda a tal proposito l'importante articolo *Cassirer's Theory of History as Illustrated in His Treatment of Renaissance Thought*, apparso originalmente nel volume collettaneo *The Philosophy of Ernst Cassirer* (1949) e successivamente ripubblicato come undicesimo capitolo di *Philosophy after Darwin*. Particolarmente rilevante da questo punto di vista è la terza sezione dell'articolo, in cui le scelte interpretative di Cassirer vengono ricondotte e spiegate nei termini di alcuni tratti della sua personalità di intellettuale. Dopo aver ricordato la scarsa dimestichezza di Cassirer con il pensiero medievale, Randall osservava che una migliore conoscenza non avrebbe modificato i suoi giudizi sul rapporto fra Rinascimento e Medioevo. Questo perché Cassirer non era interessato a rinvenire "le continuità e gli antecedenti"; "[c]iò che lo interessava era l'altra faccia della medaglia, le novità e le nuove acquisizioni della storia," Randall (1977: 284).

5. Si vedano in particolare i primi tre capitoli. Alla concezione deweyana della storiografia filosofica Randall dedicò un importante articolo, *Dewey's Interpretation of the History of Philosophy*, apparso originariamente nel volume collettaneo *The Philosophy of John Dewey* (1939) e successivamente ripubblicato come dodicesimo capitolo di *Philosophy after Darwin*. In questo testo, Randall riaffermava con forza il proprio debito nei confronti di Dewey: "più fondamentale di ogni particolare interpretazione della storia della filosofia», scriveva, «è la concezione che Dewey propone della funzione storica del pensiero filosofico." Il merito principale di Dewey agli occhi di Randall era di aver mostrato come la filosofia fosse "un fenomeno della cultura umana" la cui vera natura risiede nel ruolo che ha giocato nella storia della civiltà. Questa intuizione gli consentiva di non considerare i prodotti filosofici come animati esclusivamente da una logica interna, ma come vari tentativi di razionalizzazione e sistemazione dell'esperienza che risentono delle trasformazioni subite dal mondo a cui si riferiscono. Randall (1977: 311).

6. Per un'analisi degli aspetti fondamentali del naturalismo di Columbia si rimanda alla voce *Naturalism* scritta da Eldridge 2004; a Anton 2005; all'articolo di Jewett 2011; e soprattutto a Shea 1984, e a Nunziante 2012. Per una storia del dipartimento di filosofia di Columbia si veda Randall 1957, in particolare: 117-45.

7. Per una breve e concisa presentazione del dibattito, mi permetto di rimandare al mio *American Context* (2018). Per un'analisi molto più approfondita ed esaustiva, si veda Hildebrand 2003, in particolare i capitoli 2 e 3.

8. Non è possibile soffermarsi su questo punto ma, detto per inciso, le divergenze fra Dewey e Woodbridge riguardavano precisamente la possibilità o meno di definire l'esperienza del significato delle cose come un caso di conoscenza. A differenza di Woodbridge, che da questo punto di vista era sicuramente più legato alla tradizione filosofica, Dewey riteneva che il concetto di conoscenza si attagliasse soltanto alle conclusioni di processi controllati di indagine. Per una giustificazione di questo uso idiosincratico del termine conoscenza si veda, ovviamente, Dewey (1949: 39-41).

9. Ciò non significa, peraltro, che il fatto di essere conosciuto sia assolutamente privo di efficacia causale e dunque, in ultima analisi, "esistenziale." Nessuno può seriamente mettere in dubbio che l'America come continente fosse lì prima che Cristoforo Colombo la scoprisse, ma sarebbe altrettanto inaccettabile ridurre quell'evento al semplice fatto fisico dell'attracco di alcune navi sulle coste del nuovo continente. La scoperta dell'America fu soprattutto la scoperta di nuove rotte commerciali, di nuovi modi di vedere il mondo, di nuovi problemi da affrontare. Si può certo dire che ciò che è cambiato è soltanto la mappa del mondo e non il mondo stesso, ma, osservava Dewey, si deve pur sempre ammettere che la mappa è una parte di quel mondo: in realtà, ciò che subì un cambiamento non fu semplicemente un gruppo di idee nella testa delle persone, ma "il significato pubblico del mondo in cui gli uomini pubblicamente agiscono," Dewey (1990: 124-5).

10. Così aveva scritto Dewey in *Esperienza e natura*, nel tentativo di definire un orizzonte di pensiero che fosse in grado di rendere conto dei successi scientifici in chiave non scienziata. “L’esperienza non è un velo che isola l’uomo dalla natura: è un mezzo per penetrare, attraverso un rapporto di continuità, nel cuore della natura. Nel carattere dell’esperienza non c’è alcuna indicazione che porti a conclusioni agnostiche, ma piuttosto a una progressiva e crescente rivelazione della natura.” Dewey (1990: 14). In modo altrettanto chiaro si era espresso Randall: “[q]uesta doppia antitesi, fra la Natura e il Soprannaturale o il Trascendentale, da un lato, e fra Natura e Uomo o esperienza umana, dall’altro, domina ancora l’uso quotidiano di ‘ciò che è naturale’ in quanto termine di distinzione [...]. Ora, naturalismo nel senso in cui è utilizzato in questo volume può essere definito negativamente come il rifiuto di assumere ‘natura’ o ‘ciò che è naturale’ come un termine di distinzione.” Randall (1944: 356-7).

11. Da questo punto di vista sarebbe interessante approfondire i rapporti fra i connettivi di Randall e le forme simboliche di Cassirer. Per un primo tentativo di confronto, incentrato precisamente sul concetto di teoria della storia, rimando a Juffras (1989: 206, e seguenti).

12. Non a caso, Randall, così come Woodbridge, fu attento studioso di Aristotele a cui dedicò il volume *Aristotle* (Randall 1960). L’influenza di Aristotele sul pensiero americano degli anni ’20 è enorme; su questi temi si veda Anton 2005.

13. “I problemi della Teoria della Storia comprendono, in primo luogo, un gruppo di questioni generali. Che cos’è la ‘storia’? Che cosa significa essere ‘una storia’? Che cosa significa avere ‘una storia’? [...] Il secondo grande problema della teoria della storia è: come devono essere comprese le storie delle cose? E il terzo problema è: come possono le storie delle cose farci comprendere e spiegare le cose che possiedono queste storie?” Randall (1958a: 34).

14. Il riferimento obbligato è, ovviamente, *Teoria e storia della storiografia* di Croce, tradotta in inglese – prendendo come edizione di riferimento la seconda edizione italiana del 1919 – nel 1921. Sulla diffusione dell’opera di Croce in America – e in particolare nell’università di Columbia – si rimanda a Novick (1988: 154-6).

15. La confusione fra posizioni di tipo relativista à la Dewey e concezioni apertamente soggettiviste e relativiste del lavoro storico rappresentò un tratto caratteristico del dibattito storiografico a cavallo fra gli anni cinquanta e sessanta. Esemplificativo di questa confusione è l’articolo di Destler 1950. In questo testo, che divenne uno degli obiettivi polemici preferiti di Randall, Destler sosteneva che presentismo, soggettivismo e relativismo facessero parte di una grande reazione contro la scienza moderna. Per una discussione delle implicazioni politiche sottese a questa accusa – che contrapponeva l’oggettivismo americano al relativismo europeo – si rimanda a Novick (1988: 402-3).

16. Con esplicito riferimento alla conoscenza filosofica, Randall osservava che uno degli insegnamenti della storia è che “muovendo dai loro diversi punti di partenza, ognuno all’interno della sua propria tradizione, gli uomini sono stati condotti, dalle identiche regolarità della loro esperienza di un mondo comune, a riconoscere e formulare, ognuno nel suo particolare linguaggio filosofico, certe distinzioni e tratti comuni” Randall (1963: 69). Si rivela però qui un limite teorico strutturale della teoria della storia di Randall, ovvero la mancata comprensione della portata realmente rivoluzionaria della concezione relativista della conoscenza. Randall fu portato ad evidenziare – forse in chiave anti-idealista – l’aspetto oggettivo della conoscenza ma non lo concepì in termini strettamente funzionali – in termini cioè di soluzione di un problema, come aveva cercato di fare Dewey – bensì ancora in termini realisti, come corrispondenza a una realtà precedente e indipendente all’atto della selezione. Che poi questa corrispondenza venisse declinata in termini espressivisti poco importa. Rimaneva il fatto che l’atto di selezione non era in grado di generare da se stesso le proprie condizioni di accettabilità. Si veda a questo proposito Randall (1958a: 45).

17. Sull’idea di storia come storia contemporanea aveva insistito, oltre ovviamente a Croce, anche Dewey nel dodicesimo capitolo della *Logica*, dedicato all’analisi dei giudizi spazio-

temporali. “Ogni costruzione storica è necessariamente selettiva” scriveva Dewey e concludeva che “se il dato della selezione è ciò che dobbiamo in primo luogo e fondamentalmente riconoscere, siamo portati a concludere che tutta la storia è necessariamente scritta dal punto di vista del presente, ed è, inevitabilmente, storia non soltanto del presente, ma di ciò che nel presente è presentemente giudicato importante” Dewey (2008: 317).

18. Su questo punto si veda anche Mead (1986: 5). In generale, in un quadro fortemente pragmatista come quello delineato finora, e considerando l'importanza per Randall del concetto di *presente*, risulterebbe piuttosto naturale ipotizzare un'influenza diretta e marcata del pensiero di Mead, e in modo particolare de *La filosofia del presente*. Invece una tale influenza è, se non assente, perlomeno mai evidenziata e affermata. Randall fa pochi riferimenti a Mead nelle sue opere, e molto spesso in modo cursorio. Diverso, invece, l'atteggiamento nei confronti di Whitehead, la cui metafisica del processo, al cui interno si articola il concetto di presente, è apertamente riconosciuta da Randall come una propria fonte. Si veda, ad esempio, il saggio *Substance as a Cooperation of Processes*, in Randall 1958a, in particolare le pagine 186-90. Su questo punto, si veda anche Cormier (1961: 47-58).

19. È opportuna una precisazione su questo punto. Insistendo sulla centralità del presente come modalità di accesso cognitivo al passato Randall non intendeva affatto appiattire i problemi del passato sui problemi e gli interessi dello storico. Se il presentismo avesse implicato logicamente una conclusione di questo tipo, Randall non avrebbe esitato ad abbandonarlo. Si veda a tal proposito la critica rivolta a Cassirer di rendere gli uomini del Rinascimento dei filosofi neokantiani, fraintendendo completamente la specificità storica della loro posizione (Randall 1977: 288-9). In realtà, quel meccanismo di costruzione dell'orizzonte temporale di significato serviva precisamente ad assicurare la possibilità di assumere come punto di osservazione quello che si potrebbe chiamare “un altro presente,” ovvero il punto di vista dell'autore che è oggetto di studio. Il passato, scriveva infatti Randall, è “pieno di passati conseguimenti o risultati, ognuno dei quali può essere preso come un ‘presente’ passato da cui prevedere e comprendere la sua storia.” E concludeva osservando che “[d]i ogni cosa si troverà che possiede una storia che può essere investigata dal punto di osservazione favorevole del suo ‘presente,’ o *focus*.” Si trattava di un'osservazione importante, dal momento che consentiva di preservare un'intuizione importante del lavoro storiografico: l'idea, cioè, che un determinato evento, per essere compreso, dovesse essere riportato al contesto in cui aveva preso forma. Nel caso specifico della storiografia filosofica, significava prendere in considerazione il linguaggio in cui un sistema era espresso, lo stato delle conoscenze note all'autore, e così via. E tuttavia, la possibilità dello storico di assumere come proprio punto di vista un presente passato non escludeva il riferimento al presente attuale a cui lo storico appartiene. È questo che fornisce allo storico i materiali della ricerca (reperti, nuovi studi, nuove metodologie di indagine) e sono i suoi problemi che ne motivano le scelte. Per usare le parole di Randall, “[i]l ‘focus’ di una storia deve essere sempre relativo a qualcosa. Il ‘focus’ immediato sarà relativo al particolare sforzo di comprensione dello storico. Il ‘focus’ ultimo si troverà sempre nel ‘presente’ dello storico,” Randall (1958a: 49-51).

20. Randall 1963. Si veda in particolare il secondo capitolo intitolato significativamente *Historical Patterns in Philosophical Traditions*.

21. Significativo è il caso di Popkin che, interessato non al problema dello scontro fra credenze religiose e conoscenze scientifiche e nemmeno all'influsso della scienza sulla civiltà occidentale, ma al tema dell'influenza dello scetticismo sul pensiero moderno, poteva obiettare a Randall che il punto di vista adottato da quest'ultimo non era adatto a comprendere il significato della modernità. “Randall, a partire da *The Making of Modern Mind* passando per i suoi studi sulla scuola di Padova per finire con *The Career of Philosophy*, ha sottolineato con forza l'interconnessione e il legame reciproco esistente fra lo sviluppo scientifico e quello filosofico. Ma penso che, nell'impostare la discussione sugli inizi della filosofia moderna a partire dai tentativi di rispondere alle domande: com'è possibile la conoscenza della scienza meccanicista, e su cosa

verte questa scienza?, si introduca una distorsione sia del contesto sia delle risposte.” Popkin (1966: 713-4).

22. Su questi temi, con una particolare attenzione per il complesso rapporto di Lovejoy con il pragmatismo, rimando a Niklas 2016.

RIASSUNTI

The article deals with John Hermann Randall's theory of history, namely, the philosophical account of what it takes for an object to be a *historical* object. The goal of the article is to highlight the deep connections existing between Randall's philosophical views on history and the writing of history, heavily indebted to Dewey's and Woodbridge naturalism (the so-called Columbia Naturalism), and his historiographical work. In the first section, I briefly sketch some major aspects of originality of Randall's historiographical work, as well as the intellectual context to which he belonged. In the second section I lay out the most important features of Columbia Naturalism. In the third section I discuss in detail Randall's theory of history, focusing on its ontological, epistemic, and epistemological features. In the fourth section, I confront Lovejoy and Randall's historiographical works in order to show how philosophical theories affect historiographical practices.

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Book Review

RAZINSKY Hili, *Ambivalence. A Philosophical Exploration*

London-New York, Rowman & Littlefield, 2017, p. ix, 285

Guido Baggio

REFERENCES

RAZINSKY Hili, *Ambivalence. A Philosophical Exploration*, London-New York, Rowman & Littlefield, 2017, p. ix, 285

- 1 Hili Razinsky's book aims to investigate the philosophical notion of ambivalence and to support an anti-irrationalist, non-contradictory, and anti-dichotomic perspective of this notion. The book is hardly ascribable to an explicit philosophical tradition: it includes references to both continental and analytic philosophers (from Heidegger, Husserl, and Sartre, to Davidson and Freud, among many others). Razinsky also offers examples taken from literary works to corroborate her replies to the following questions: what is ambivalence? What character does it assume? How is ambivalence to be understood? Is it rational or irrational? How is ambivalence expressed, and how is it recognized?
- 2 The volume consists of nine chapters divided into three parts. Chapters 4, 5, 8, and 9 are partial or total re-workings of previous articles by the same author. The appendix chapter is a discussion of the distinction between "inherent ambivalence" and "contingent ambivalence."
- 3 The first chapter is essential for the reader to attain an overview of the ambivalence issue. Razinsky provides a general definition of ambivalence involving key concepts such as *intentionality*, *attitude*, *mind*, and *rationality*. All over the book, these same concepts are alternatively focused upon to show the main philosophical perspectives on ambivalence.
- 4 Razinsky's definition of ambivalence refers to the mental and behavioral attitudes of human beings. According to the author, an ambivalent person is a person who "holds

two opposed mental attitudes toward one and the same object” (p. 16). However, maintaining two opposing attitudes is not necessarily the expression of a split subject; this condition, instead, means that the subject herself is ambivalent in the sense that she expresses a plurality in the unity of her being. This interpretation intentionally prevents us from considering ambivalence as an irrational character of the subject as something that goes against schemes of rationality and coherence. Ambivalence is not a contradictory phenomenon, as Razinsky wishes to stress as early as in the introduction: “The main thought behind this book is that if human lives are in fact often ambivalent, this may be conceived as an invitation to rethink our notions of personhood and rationality, as well as those of mental attitude, desire, judgment, emotion, action, and consciousness.” (4).

- 5 This book aims to rethink acquired notions through an overall study of ambivalence. The latter is unconventionally understood as a side of subjectivity, that is, of a “psychophysical creature and by the same token a subject – the subject is a person” (28). On this point, the question that Razinsky’s book poses concerns both concepts of subjectivity and person. These concepts are taken up by the author in an instrumental way to develop her thesis of the ambivalent character of human existence. However, in contrast to her main thought to rethinking notions, these concepts turn out to be rather unexplored or too simplified. The author justifies with the scope of the book her choice not to problematize the subject/person distinction. She intends to address the main features of ambivalence specifically. However, to dismiss these notions with a footnote seems a bit too limited all the more that ambivalent persons and their mental and behavioral attitudes are constantly addressed. This lack of deepening also affects other notions frequently utilized by the author, such as *intention*, *attitudes*, and *mental attitudes*. As Razinsky argues, her understanding of intentionality is in line with the conceptions of Davidson and Husserl. In particular, intentionality means the manifestation of a person’s subjectivity (21). The example Razinsky uses is that of someone who loves someone else or who does something. To love and to do something are two intentional aspects of human life, and this means that the person intends to love or intends to do that thing. “If a cluster of thoughts, actions, and so on has the meaning of a certain attitude of love, it is the person herself who ‘means’ it as such, and it is from her point of view that this cluster takes the direction of love or constitutes a tendency that is love.” (21). So that mental attitudes and actions, as well as many other mental and behavioral aspects, are intentional.
- 6 As the author further specifies, the book deals mainly with mental attitudes. But what are mental attitudes, or even, as Razinsky simplifies, what are attitudes? An attitude, she argues, is “a disposition to behavior and consciousness” (22). According to the author, a disposition implies an *outlook*, and this shows its intentional character, as it is towards something or someone (22). Moreover, attitudes are not necessarily acknowledged. They are constituted together with their behavioral and conscious expressions. However, attitudes, behavior, and other engagements “which are not at the particular time experienced as these attitudes or behavior” are distinct from “thoughts, conscious actions, conscious attitudes” (29-30). In a nutshell, attitudes are intentional dispositions conscious or unconscious, towards something or someone. The adjective *mental* used for attitudes seems to have an extremely generic value because the intentionality that characterizes attitudes implies basic rationality that connects attitudes to the mental interconnections of the subject. In this perspective, the subject is a creature engaged in “multiple ways.” “The sense in human life is hence bound with

a soft identity of mental attitudes, which is to say that while a person's attitude is in a sense defined by its interlinkages with behavior and consciousness, further attitudes, and other engagements, it also transcends any definition and is essentially open to redefinition." (24).

- 7 The author defines the mind as "the person's array of mental attitudes, [which] captures a focal part of the person's intentionality" (25). Here again, the adjective *mental* seems to be used too vaguely. On the one hand, the realm of the mind is not reducible to intentionality, and therefore to mental attitudes; while on the other hand, it is attributed to the character dispositions as well as to other aspects that constitute the "matter-of-course background" of the subject's engagements.
- 8 The second chapter is programmatic for the author presents three clusters of philosophical issues concerning ambivalence she will be dealing with in the following chapters. The first cluster concerns the thesis that ambivalence is not possible because it implies the idea of a person with two opposing attitudes. Addressing this philosophical problem, the author compares her approach to ambivalence with the *multiplicity approach* proposed by Harry Frankfurt in *The Faintest Passion* (1992), and with Davidson's conception of personhood as a matter of basic rationality. The multiplicity approach can either mean that the subject is a subject only until she becomes ambivalent, or that she is essentially a plural creature. In this perspective, in both cases, ambivalence is not compatible with the idea of a unitary subject. Frankfurt adopts the first meaning, considering ambivalence as the annihilation of the subject. In Davidson's perspective, instead, mental unity consists of "the rational interrelation and consistency of attitudes" (39). Davidson speaks of two *quasi-subjects* to frame contrasting or inconsistent attitudes of a person. According to Frankfurt and Davidson, the mental unity of subjects requires a minimum level of consistency. This hypothesis is problematic to the author, for she maintains that ambivalence involves both unity and multiplicity at the same time. As Razinsky will explain better in chapter 7, ambivalence involves basic rationality and a unitary subject. However, even if the unitary subjects have a plurality of attitudes, these attitudes do not divide the subject into *quasi-subjects*, nor do they confer an irrational character to ambivalence. Subjects cope daily with contrasting attitudes that characterize their personalities (see 174-87).
- 9 As for the second philosophical problem, which is the idea that ambivalent behavior makes people incapable of acting, the author believes that from mutually exclusive behaviors and desires it does not follow that ambivalent behavior is the combination of two conflicting practical conclusions, but only that: "ambivalence is a challenge for our conduct-one to which we respond in all sort of resourceful ways. [...] Ambivalence often involves creative compromise behavior that forms an ambivalent yet substantial direction in the person's life. Ambivalence allows for *compromise action*, in which we jointly *fulfill* both opposed desires." (49, 51).
- 10 The second part of the book goes from chapter 3 to 6. In this section, Razinsky examines the relationships between emotional ambivalence and the notions of subjectivity and agency. She supports an idea of a person as unity in plurality and considers ambivalence as a central feature of mental unity (chapter 3). Then the author devotes herself to the analysis of ambivalence from a behavioral perspective. According to her, emotional ambivalence constitutes: "a wider complex that cannot be reduced to two independent emotional complexes" (61). Her definition of emotional ambivalence relies on Philip J. Koch's article "Emotional Ambivalence" (1987). According to Koch,

emotions are complexes of bodily feelings, attentional sets, evaluations/judgments, and desires/impulses/inclinations to behave. In other words, emotions are everything that can fit into an opposition situation. Razinsky integrates Koch's conception of emotions with the feature of intentionality: emotions are understood as "mental attitudes toward objects" (63). Thus, she can speak of a unity in plurality that consists of keeping together conflicting emotions with other mental interlinkages. Such unity in plurality is circumscribed, however, by the "phenomena and language of ambivalence and of the mind" (67), that is to say, "it is in terms of interlinkages involved in the ambivalence that particular instances can be understood and that levels and aspects of integration can be described" (76).

- 11 The author adopts a very naïve notion of subjectivity that includes the idea of unity in plurality together with a basic understanding of the human being as a unitary subject. At the same time, however, Razinsky also states that this notion of subjectivity is not sufficient to sustain the idea of unity in plurality, because unity is "neither simple nor quasi-simple." Therefore, "to take the human being or mind for a simple unity is tantamount to denying ambivalence" (67).
- 12 At this point, Razinsky introduces the concept of *engagement* to try to make her idea of ambivalence succeed. Engagement is defined in a footnote as "the concrete manifestations of subjectivity or as the intentional aspects of a person's life" (77), and it includes "attitudes, thoughts, sensations, acts, and other mental elements (behavior included)" (67). She then offers an implemented definition of ambivalence that includes the subject's plurality of engagements. This definition applies to the mind understood in terms of the totality of engagements, or totality of attitudes. Although the same phenomenon of ambivalence "implies a cognitive relevance" (70), however, the author strategically uses again the concept of mind to hold together heterogeneous elements without providing a sufficient analysis of it. She just refers to the Davidsonian notion of mental holism, comparing the idea of unity in plurality with what Davidson calls "the person's engagements as basically or constitutively rational" (68).
- 13 In chapter 5, the author addresses the theme of conscious subjectivity. She states that the term *consciousness* refers in her book "to more or less momentary consciousness or to particular aspects of such moments" (99). In a footnote, she specifies that *momentary* is to be intended as "more or less momentary," or rather what is called "the specious present" (125). This is a too hasty way to solve the complex issue of consciousness, even more so by invoking the notion of "specious present," which constitutes a problematic issue itself. The author uses this extremely general definition of consciousness to refer to the way in which momentary consciousness takes time as part of an "ongoing consciousness," in order to argue that "intentional experiences and intentional aspects of experience would be conscious engagements or aspects of a consciousness differentiated as to how the consciousness goes out" (115).
- 14 Chapters 6 and 7 are dedicated respectively to Razinsky's comparison between the concept of unity in plurality and the concepts of harmonious unity and harmonization – in this regard, she refers to Freud's notion of personhood; to the issue of self-deception and ambivalent beliefs. In the last two chapters, the author finally responds to the idea of the impossibility of ambivalence concerning the notions of truth and value, which represents the third cluster of philosophical problems introduced in chapter 2.

- 15 Razinsky's attempt to maintain an anti-reductionist approach to the complex phenomenon of ambivalence is undoubtedly interesting. Her effort to distinguish the phenomenon of ambivalence from its logical interpretation, which identifies ambivalence with self-contradiction, is appreciable. This distinction is highlighted in chapter 4, dedicated to ambivalent behavior. The author tries to illustrate that the conflict between opposing behavioral inclinations does not imply contradictory desires, but rather there is a *vagueness* that accompanies ambivalence. However, once again, a problematic notion such as vagueness is not adequately investigated.
- 16 Reading this book gives the impression that the promising intentions of the author have turned out to be more complicated than expected in their realization, which is perhaps the reason why it is not fully successful. Razinsky's attempt to preserve the complexity of the phenomenon of ambivalence leads the author to persist on a very general level of reflection with respect to the multiple dimensions involved in the human phenomenon of ambivalence. The book would have been much more interesting if the author had shown a greater sensitivity to the problematization of concepts. The unproblematic way in which she accepts concepts conflicts with her insisting on the need of a complex theoretical framework to any consistent discussion on ambivalence. The conceptual problematization would have made Razinsky's book a relevant contribution to the debate on ambivalence. But unfortunately, this was not the case. A number of the key concepts used to discuss ambivalence would have required much more in-depth work, in particular, the notions of mind, emotion, engagement, vagueness (attributed to behavior (86)), and consciousness. Razinsky admits that some definitions of the concepts she currently uses are not sufficient to describe ambivalence, but she keeps adopting them in order to avoid deviating from her main focus. In conclusion, although the author's intention is remarkable, the book does not fully satisfy the reader who wants to get an idea of the phenomenon of ambivalence and of the complexity of the human aspects it involves.
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AXTELL Guy, *Problems of Religious Luck: Assessing the Limits of Reasonable Religious Disagreement*

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REFERENCES

AXTELL Guy, *Problems of Religious Luck: Assessing the Limits of Reasonable Religious Disagreement*, Lanham-Boulder-New York-London: Lexington Books, 280 pages

- 1 The primary purpose of this book is to discuss the concept of religious luck as linked to ethical values. The author emphasizes that the quality and interpretation of the luck factor can be studied in a variety of ways, not only in theology but also in social sciences and philosophy. In the first chapter of the book, Axtell defines what he means by problems of religious luck. He believes that the new issue of religious luck is concerned with asymmetric trait attribution in connection with a broader study of inductive risk or the epistemic risk of “getting it wrong” in an inductive context. In other words, the concept of luck appears as a new study of religion. In doing so, he gets inspiration from many contemporary theologians and pragmatist philosophers such as William James, Linda Zagzebski, Charlotte Katzoff, Joel Feinberg and Thomas Nagel.
- 2 The methodological aspects of the problem of religious luck are central in the first chapter. For Axtell, religious luck appears as a main factor that affects the control mechanism of religious behavior. Therefore, he demonstrates that it would not be appropriate to interpret moral luck – in which luck makes moral differences – as a phenomenon exclusively philosophical, but it should also be evaluated psychologically. Hence, Axtell gives us explanations from socio-psychological studies according to which the righteous judgments of people emerge from the lack of knowledge. He investigates the relation between religious luck and moral as well as epistemic luck.

While doing so, he tries to look for an answer to the question whether any concept of luck philosophically should also be valid and useful in ethics, epistemology, and science. Separately from other philosophers, the author does not discuss the functioning of cognitive illusion as refers to the understanding of luck. Thus, on the following pages, Axtell speaks of the diversity of religious luck.

- 3 One example of this religious luck would be *resultant luck*, which is defined as the bad/good luck of being harmed or benefited in consequence of an act. The second type of luck, *criteria religious luck* is defined as suffering harms or enjoying benefits through being judged or punished. However, while *constitutive religious luck*, as a different one, is explained as religious analog of bad/good luck in being the kind of person one is, *propositional religious luck* is understood as impacting the agent in a malign way when he or she has good evidence available for a belief, yet does not believe on the basis of the good available evidence. Axtell continues with *veritic religious luck*, which is a religious analog that is associated with epistemology. Finally, he focuses on *environmental veritic religious luck*, as a religious analog of the kind of malign epistemic luck that operates in Fake Barn cases. The assumption is that such luck factors have significant effects not only on religious teaching but also on human psychology.
- 4 The second part of the book explains the interpretation of religion through the philosophy of science and the role of *risk* in determining ethical and moral values. Before examining the second part in detail, it is necessary to state what the philosophy of science means and how the term *risk* determines ethical and moral values as well as human biases. The philosophy of science explains the events that await clarification or the secrets of nature using a number of techniques such as experimentation and observation. However, the concept of risk refers, often rather vaguely, to situations in which it is possible, but not certain, that some undesirable event will occur. In this sense, it is seen that the concept of *risk* is uncertain and includes the lack of knowledge. Therefore, differences in religious beliefs, according to Axtell, appear as the result of an epistemological problem. In other words, how and why one knows certain things is an epistemological problem rather than religious.
- 5 The philosopher understands that epistemology explains how perception or beliefs can give us information or justified faith about the external world, about the things that are outside of us, such as the belief in a god and religion. The culturally nurtured faith shows the influence of social norms on the belief system of a community. Especially, inductive thinking and epistemic risk have shown the importance of epistemological problem by comparing it with spiritual salvation, values, and beliefs.
- 6 On the other hand, the author addresses the philosophy of science and explains the disagreements between religious norms by using the inductive risk, which is the chance or possibility of getting it wrong in an inductive context. He accepts that inductive risk can be an essential basis for discussions between philosophers and theologians. Axtell is convinced that social norms and values must be considered to reach a clear understanding of the concept of truth. He emphasizes that scientists, philosophers, and theologians must make a value judgment while choosing the standards of evidence which they need for accepting or rejecting a given hypothesis. Although it is unquestionable that values can affect many aspects of science, the inductive risk argument goes further, showing that even the evaluation of theories should contain some reference to values and valuations.

- 7 Another critical point in the second chapter consists of the four crucial theses of the new problem of religion. The first issue is *familial-cultural displacement symmetry*, which is more about the identity of an adherent of religion and it focuses on family and culture. The second problem is *etioloical symmetry*. This thesis tries to explain how one becomes religious under the influence of the epistemic locations and purported revelations. In other words, the religion or a sect-based belief that an individual has acquired is mostly due to the reason that one witnesses the rituals and practices of the given belief. The third thesis refers to *exclusivist asymmetries*, the belief of people that is shaped according to the epistemic location. In other words, people believe that their religion is accurate and that those who believe in another faith are wrong. Axtell continues, “The exclusivist ascribes falsehood to the theological systems of religious aliens, but true to their own, through what any non-committed party would judge to be a common mode of belief uptake: testimonial authority assumption” (p. 59). As the last point, *counter-inductive thinking* demonstrates how the mindset of religious exclusivism is enabled only through counter-inductive thinking. It is a measure that calls something into question by producing an anti-thesis against it.
- 8 The third chapter of the book focuses on the types of fideism, such as psychological and religious. According to Axtell, psychological fideism is an explanatory thesis and one that can be tested and continually revised. By explaining so, the main focus of the philosopher is the religious fundamentalism, a type of belief system which enables individuals to make sense of their lives and provides them with an identity. Axtell gives an understanding of religious radicalization through the theory that he takes from Whitehouse and McQuinn who coined the term DMR (*Divergent Modes of Religiosity*, 2013). DMR highlights that the more severe or risky the requirements for entry into a group identity are, the higher emotional connection appears with the group members. It is designed to explain how religion was created, the way it is transferred from generation to generation and its evolution over time. The theory emphasizes the combination of beliefs in two different categories according to the structure of religions or, in other words, it suggests that religions tend to unite around two different modes, namely imaginary and doctrinal. The imaginary mode is characterized by high arousal rituals, which are rarely performed, and are associated with small-scale, specific religious groups. In contrast, the doctrinal method is usually defined by low stimulation rituals and is associated with larger inclusive communities as in large world communities.
- 9 Taking this theory into consideration, Axtell emphasizes that religious fundamentalism is not only as what to believe but also how to have a faith. Hence, the author refers to the psychological and social effects of religious norms on the individual. By developing this type of assertion, he makes a commentary on Abrahamic religions such as Judaism, Christianity, and Islam. In doing so, the philosopher benefits from the researches that have been done by Jose Light and Sarah Savage, who take a sensible approach to establish scales that support a cross-cultural or comparative studies of fundamentalism, which shows itself differently in every religion. Some religious values or features indicate fundamentalism. For example, for Axtell, the salvific exclusivism, which states that one religion has the correct version of god, truth, and salvation, is one of the characteristics of fundamentalism.
- 10 Axtell believes that the psychological effect of religious teachings and its influence cause significant elements of extremism. His Jamesian philosophy influences his efforts

to connect the psychology of religion and philosophy of science. In *The Will to Believe*, American psychologist and philosopher William James, defines religion as a tendency in which philosophy of science can take advantage. James believed that the psychological dynamics, such as norms, characteristics, and values are involved in the nature of human agents. Such a psychological understanding of religion is called descriptive fideism; therefore, James's term *faith-ladder* is illustrated as an expressive of psychological fideism. According to James, anything proposed to one's faith is called a hypothesis, and within the scope of interpretation, there are options. To really understand James, we need to understand the terms he defines or introduces. A hypothesis is a suggestion or an idea. It exists because it is seen as a possible and acceptable belief. Such hypothesis can be divided into two categories. A live hypothesis, which is actually a proposition in which we can believe and a dead hypothesis, which is a proposition that we cannot believe. In light of this, James introduces the theory of option. In his characterization, decision between two hypotheses is an option. Therefore, there are several kinds of options. For example, (1) a live or a dead option, (2) forced option, and (3) momentous option.

- 11 Thus, the Jamesian faith-ladder crosses division between philosophers as long as it consists of "is" and "ought."
- 12 Axtell indicates that risk and responsibility are intimately connected. He says, "The riskiness of one's method of forming one's religious belief is central not just to critical concerns in the psychology of religion, but also normative concerns with the ethics of belief" (92). To sum up, the primary point that chapter three indicates is the link between counter-inductive thinking and religious fundamentalism. To put it differently, the third chapter analyzes how the philosophy of science and psychology of religion act to understand religious radicalization.
- 13 In the fourth chapter, the author emphasizes the role of biases that create differences among religions. Especially, psychological and philosophical effects of in-group and out-group separation. The concept of prejudice is explained more psychologically, thus, the theory *bias blind spot* which shows the impact of the biases on the decisions that people make for others, is emphasized. The author gives examples from French philosopher Michel de Montaigne as he discusses biases. In Montaigne, the judgments that people make in ignorance of their preferences are called *importunate presumption*. Montaigne most often associated errors with some form of presumption. So, he categorized these errors with two kinds of hypotheses; the first error is the failure to be open to the unfamiliar and the second presumption is the error of not coming back to ourselves, to the most familiar one. Hence, for Axtell, our biases are the essential elements that drive mentality of a religious holder into fundamentalism. As he points out, "Our bias blind spot and our tendency to engage in doubtful, sharply asymmetrical characterological trait-ascription are intimately connected" (113). The psychological study of bias takes attraction as one of the explanatory notes for sociologists and psychologists. For instance, Christina Cleveland, an American social psychologist, points out that when social preferences, such as out-group and in-group, take place in any sphere of life, the tendency to classify people and exaggerate differences became more frequent and visible. Another psychologist, Tricia Yurak, explains bias in two different terms. One of the theses is *false consensus effect* which demonstrates a kind of bias that ordinary people create in their mind. She names such bias *cognitive bias*. *False consensus effect* appears when people realize that others are more similar to them. The

second thesis is *pluralistic ignorance* which, according to Yurak, refers to instances of actual similarity interpreted as dissimilarity. Taking psychological research into consideration, Axtell combines them with *counter-inductive thinking* and refers to another philosophical book entitled *Confabulation*, written by William Hirstein, an American philosopher of mind. Hirstein writes, “Confabulation involves the absence of doubt about something one should doubt: one’s memory, one’s ability to move one’s arm, one’s ability to see, and so forth” (116).

- 14 After taking an in-depth look of biases, the second part of the fourth chapter analyzes fundamentalists’ thinking rather than their belief. By doing so, the author gives examples from the other studies that have been done by James Peacock and Tim Pettyjohn, who claimed that narratives are useful analytical windows into fundamentalist religious traditions. As a result, the writer believes that social biases can be a strategy of self-exculpating while they are most of the time motivated religiously.
- 15 The next chapter of the book covers religious teaching. The fifth chapter addresses the relationship between belief, which is a dogmatic and knowledge, which is doxastic. The writer refers to dogmatic belief as an undetermined idea while doxastic means over-determined. By giving various definitions of fideism, the author credits the diversity of a conception of faith. In other words, the interpretation of faith conquers an essential place in the new problems of religious luck. At the same time, Axtell mentions the importance of *parity arguments* and its link with *naive realism* while he gives us a symmetrical and asymmetrical outlook not only in the philosophy of religion but also in epistemology. Thus, he emphasizes that deism and theism provide the first example of *parity arguments*.
- 16 Consequently, the last chapter of the book focuses on *counter-inductive thinking*, *counter-intuitive ideas*, and the *cognitive science of religion*. The author emphasizes *the cognitive science of religion* (CSR), which is a psychological and evolutionary approach to the religious faith, behavior and rituals. CSR is a scientific study of religion and it focuses on the methods and theory from a very broad range of disciplines including: cognitive psychology, evolutionary psychology, and cognitive anthropology. Specifically, CSR explores the cause-effect relationship among religious events, considerations, and practices among people. It mainly focuses on how ordinary human psychology reacts to religious phenomena. What Axtell does, is a try of combination between psychology and philosophy: “My point is that only by more closely aligning philosophical normativity with psychological study can we hope to improve real-world critical thinking, as is crucially necessary to address many problems that we face” (205), as he puts it. Regarding the aligning of rational normativity and psychological studies, Axtell describes Olli-Pekka Vainio’s recent book, *Disagreeing Virtuously: Religious Conflict in Interdisciplinary Perspective*, where Vainio underlines the concept of disagreement among religious holders. As a conclusion, chapter six goes into CSR and its relation to the philosophy of religion while the *luck* factor and the concept of *risk* allow us to find out the connections between *counter-inductive fideism* and *counter-intuitive ideas* of popular religiosity.

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LEVINE Steven, *Pragmatism, Objectivity, and Experience*

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- 1 Can pragmatists give a satisfactory account of the way our thoughts and claims are causally and normatively constrained by a mind-independent world? The question regarding the relations between pragmatism and objectivity, or pragmatism and realism, has animated pragmatists and its critics alike since the beginnings of the movement. Pragmatists have been accused of all the bad -isms of philosophy: subjectivism, idealism, relativism, irrationalism, to name but a few. Its most fervent critics saw the legitimacy of these accusations confirmed in Rorty's rejection of the philosophical importance of concepts such as objectivity and truth. This sparked a number of responses from new pragmatists who want to dissociate themselves from Rorty and defend a pragmatist account of truth and objectivity, among which we can count Hilary Putnam, Cheryl Misak, Jeffrey Stout, Henryk Reidenfelt, Robert Brandom and Huw Price.
- 2 Levine's book represents an important and original contribution to this century-old debate. It situates itself more specifically within the discussion on the centrality of experience or language for pragmatism. This discussion pits philosophers such as Rorty, Brandom, and Price who think that the classical pragmatists' notion of experience is outdated and should be replaced by an exclusive focus on linguistic practices, against those who think that the reconstruction of the concept of experience is one of the most valuable insights of the classical pragmatist tradition. Levine's own view is that it is precisely Rorty's eschewal of the concept of experience which is

responsible for his rejection of the idea of objectivity, understood as “the idea that we are answerable to the world in addition to other subjects” (p. 2). Those amongst the new pragmatists who follow Rorty’s lead in rejecting experience, but depart from him in attempting to construe objectivity on the basis of linguistic communication, are bound to fail at this task because of their shared premise. Accordingly, the main goal of Levine’s book is to defend a pragmatist account of objectivity that relies primarily on the classical pragmatists’ theory of experience: “Whereas most new pragmatists think that objectivity is best rehabilitated solely in *communicative-theoretic* terms – i.e., in terms that can be cashed out exclusively by capacities that agents gain through taking part in linguistic communication – I argue that rehabilitation can best be achieved through *experiential-theoretic* means” (3).

- 3 By pointing out the shortcomings in the new pragmatists’ accounts, Levine’s book motivates a new reading of the classical pragmatists as a source of inspiration and solution without thereby promoting an outright return to their views. Levine makes it clear that he is not advocating a *replacement* of the communicative-theoretic account by an experiential-theoretic one, as if one had to choose between Dewey or Brandom. He is rather claiming that experience is a necessary, and perhaps more primitive, condition of our answerability to the world.
- 4 Levine’s experiential-theoretic account of objectivity is twofold. Levine makes a helpful distinction between the question of “our *grasp* of the concept of objectivity, the concept of a world of objects and events that continue to exist when not perceived or experienced” (addressed in chapters 3 and 4), and the question of “whether the content of the empirical thoughts and judgments undertaken in light of this grasp are *in fact* constrained by, and answerable to, the mind-independent world” (157) (addressed in chapters 2, 5, and 6). In order to answer these questions, Levine also uses a twofold account of experience, each aspect being captured by the German concepts of *Erlebnis* (broadly construed as phenomenal or lived experience) and *Erfahrung* (broadly construed as an experimental, feedback-driven learning process). Although each concept of experience plays a role in both sides of Levine’s account of objectivity, and is present in both James and Dewey, Levine uses James’s account of *Erlebnis* in order to answer the first question, while Dewey’s account of *Erfahrung* supplies the answer to the second question.
- 5 One can already appreciate the originality of Levine’s contribution, which draws extensively from two figures of the classical pragmatist tradition seldom appealed to in the defense of a pragmatist realism or theory of objectivity. Peirce’s work seems to lend itself more easily to this kind of project, as indicated by the extensive development of a Peircian brand of realism in the past decades, amongst which we can cite the works of Misak, Christopher Hookway and Claudine Tiercelin. The reputation of James and Dewey, on the other hand, has somewhat suffered from Rorty’s creative appropriation of their works and from the criticisms received in their days and in ours, whether from Russell or Misak.
- 6 Another aspect of the originality of Levine’s work is his focus on the notion of objectivity. Most pragmatists have sought to answer similar questions in the terms of the debate between realism and anti-realism that raged on in the 1980s and 1990s, and whose most prominent pragmatist participants were Putnam and Rorty. The defense of a pragmatist realism, in turn, has most often been done through an elucidation of the concept of truth rather than objectivity, as in the case of Misak’s work. Perhaps this is

due to the widespread assimilation of pragmatism to a (usually misunderstood) Peircian or Jamesian theory of truth.

- 7 Levine's shift of the discussion towards objectivity has clear benefits. First of all, the realism debate has traditionally been heavily focused on metaphysics, while most classical and new pragmatists want to avoid asking or at least approaching philosophical questions from this angle. Their participation in this debate, with the notable exception of Putnam, is usually forced upon them by critics, pragmatists having to answer the charge of holding incoherent anti-realist or relativist positions. Secondly, the concept of objectivity is congenial to both new and classical pragmatism. The concept of truth, on the other hand, is of less importance in the classical pragmatists' works than is usually thought (inquiry is, arguably, a more central and primitive concept than truth for both Peirce and Dewey). Finally, many of the questions that interest the philosophers engaged in debates on realism and truth can be satisfactorily addressed by an account of objectivity, with the added value of answering them from a refreshing angle. Realists insist that there is a mind-independent world and a "way that things are" which is independent of what humans think, say, or do about it; and most of them use the concept of truth as a norm of assertion and a goal of inquiry in order to account for our answerability to the way things are. Levine's twofold account of objectivity accounts for our grasp of the first idea (although its office is not to give a *proof* for it) and shows how our beliefs are answerable to the world in practice.
- 8 The focus on objectivity also comes with its restrictions, of course. Levine himself acknowledges that he is less concerned with the "epistemic" question of "how our *inquiries* must be structured so as to issue in judgments that can be counted as *knowledge*" (5). Very little is said about inquiry, whether ordinary or scientific, or about the relation between the structure of our assertions and the structure of the world. The book does not address the question of representationalism, which is central to the works of Rorty, Brandom and Price. Because they trace their anti-representationalism back to Dewey, this would have been another interesting angle for the kind of project pursued by Levine, i.e., for a comparative and critical study of the classical and new pragmatists – but it would have required another book.
- 9 The structure of the book follows Levine's argumentative strategy rather than a chronological order of exposition. The first part of the book (Chapters 1, 2 and 3) presents a critical exposition of the new pragmatists' accounts of objectivity, while the second part of the book (Chapters 4, 5 and 6) is dedicated to the positive exposition of James' and Dewey's experiential-theoretic accounts of objectivity. By structuring the book in this manner, Levine sets the terms of the discussion in contemporary terms, thus providing an easier point of entry into the classical pragmatists' works for readers who are less familiar with their views and terminology.
- 10 The first chapter sets the basis for the general argument defended in the book, by tracing back Rorty's rejection of objectivity to his eschewal of sense experience. Levine starts by rejecting Brandom's own genealogy, which situates the source of Rorty's hostility to objectivity in his views on the mental. Rorty promotes eliminationism with regard the category of the "mental," defined by the incorrigibility of first-person reports, after revealing its contingent and social grounds, and adopts the same strategy with the category of the "objective." Brandom's rehabilitation of Rorty consists in showing that this eliminativist strategy is neither necessary nor preferable with regard

to objectivity, and in developing a conception of objectivity consistent with Rorty's idea that it is we who grant authority to things.

- 11 Levine, on the other hand, argues that Rorty's rejection of objectivity comes from his strict separation between the causal domain and the normative space of reasons. The same argument against the Myth of the Given leads Rorty to eliminate both sensation (defined as prelinguistic sensory awareness) and objectivity (the idea that the world can *normatively*, as well as causally, constrain our thought). Levine's criticism of Brandom at the end of the chapter brings to light two conditions that he thinks are necessary for a satisfactory account of objectivity: first, it must include an "explanation of rational constraint" (besides causal constraint) (40) and it has to "capture an essential feature of objectivity – namely that thought and perception that is objective is constrained by something that is *beyond our control*," which implies that the category of objectivity cannot be "something we engineer" (41).
- 12 The first chapter sets the tasks for the rest of the book: explaining why Brandom's account of objectivity is not satisfactory, and how the classical pragmatists' conception of experience does *not* fall prey to the Myth of the Given and other pitfalls that new pragmatists have sought to avoid.
- 13 Chapter 2 deals with what seems to be Brandom's most promising attempt at accounting for objectivity for those who, like Levine, want to defend an account primarily based on experience. As Levine points out, while Brandom rejects sensory experience understood as *Erlebnis*, he includes experience as *Erfahrung* as one crucial component of his account of objectivity. Experiential learning is understood as a feedback cycle through which one corrects one's prior commitments, which he also calls the "Test-Operate-Test-Exit (TOTE) cycle" in *Between Saying and Doing* (2008).
- 14 Levine's first criticism is that Brandom's account wavers between intellectualism and atomism. The former conflicts with the phenomenological fluidity of action, and the latter cannot account for the fact that human activity is "not only *launched* by acknowledgement of a practical commitment but is also *guided* and *controlled* by it through time" (54). As an alternative to Brandom's overly intellectualist pragmatism, Levine opposes a Deweyan conception of practice involving bodily habits and skills. Levine then criticizes Brandom's atomism by making an interesting application of Dewey's criticism of the "Reflex Arc Concept in Psychology" (1896) to Brandom's TOTE cycle (61-6).
- 15 The second part critically examines Brandom's attempt to account for "rational constraint" – what makes perceptual judgments rationally answerable to the world – without resorting to *Erlebnis*. Levine rejects Brandom's two solutions, namely, his social and reliabilist externalism, according to which rational constraint "can come from the rational assessment of one's perceptual judgments by *other* scorekeepers" (72), and his appeal to the process of "double-checking" (75). Both are deemed "incoherent" for Levine, the former leading to a vicious regress (74) and the latter to a self-contained coherentism (78). Levine concludes with a presentation of the interdependence between *Erfahrung* and *Erlebnis* in Dewey's account.
- 16 This chapter gives a good overview of Brandom's experiential account of objectivity (with a helpful introductory section on Brandom's rationalist pragmatism) as well as Levine's alternative Deweyan account, developed at length in the second part of the book. If the reader wants to have a good sense of Levine's argumentative strategy and

of the overall position defended in this book but only has time to read one chapter, it should probably be this one.

- 17 The third chapter is concerned with our grasp of the concept of objectivity. Levine contrasts Brandom's and Davidson's communicative-theoretic accounts with the perceptual-theoretic accounts of Strawson and Evans, according to which "the concept of objectivity is the result of an agent's grasp of the system of *spatial* concepts that informs their rudimentary 'theory of perception'" (83). Levine's main thesis is that "the communicative-theoretic conception of objectivity depends in a nonsymmetrical way on the form of objectivity that is identified by the perceptual-theoretic approach" (83).
- 18 Levine thinks that Brandom successfully defends an account of objectivity as "attitude transcendence" based on "discursive structure" only (85). He fails, however, at defending a similar account of "the authority of objects and our consequent responsibility to them" (*ibid.*). The gist of Levine's argument is that Brandom's appeal to *de re* ascriptions is not sufficient, since their representational content is interpreted in social-perspectival terms (94). Levine also shows how Davidson's "triangulation" depends on communicators already having a "grasp that there is a common space in which oneself, other, and object are housed" (109). This leads him to the examination of Strawson's and Evans's accounts, which locate our grasp of the concept of objectivity at a more basic and primitive level, namely, in our notion of a spatial world and of existence unperceived.
- 19 Drawing on the results of the previous chapter, Chapter 4 offers a revision of Strawson's and Evans's accounts based on James's own account. Levine points out that for Strawson and Evans, our concept of objectivity is something we "*bring to our experience of objects through the use of a rudimentary theory of perception*" and therefore has "its origin off stage" (123). For James, on the other hand, our grasp of objectivity is "*based in our experience of existence unperceived*" (*ibid.*). This experience is not that of the classical empiricists, but the "much richer notion" of *Erlebnis*. It involves, amongst other things, the selectivity of the mind, thought intending the same object, the fringe of consciousness, and the temporal dynamics of consciousness. Levine's main point is that, for James, our conception of existence unperceived does not come from *spatial reasoning*, but it comes from (i) our *experience of objects as persisting through our changing experiences of them*, and (ii) our *simultaneous experience of presence and absence, namely, of objects which are, in one field, "vividly present," and in another, "part of the vague marginal more"* (155).
- 20 Chapter 5 examines Dewey's account of experience as a "tribunal for thought" that is both "independent of, and yet homogeneous with, thought" (158). Dewey's account is presented as an answer to the problems raised by Rorty's and Brandom's separation between the causal realm of sensation and the normative realm of rationality, and only partially resolved by John McDowell's minimal empiricism in *Mind and World* (1994). McDowell's solution consists in seeing sensation as an actualization of conceptual capacities (167). Dewey, on the other hand, sees the "operations that organize experience [as] not primarily cognitive but practical or teleological" (170), through habits rather than inferences. The main particularity of Dewey's account is his consideration of the temporal and reconstructive aspect of thought: "thought does not come about primarily to endorse an already given experiential content, as it does for McDowell; rather, it comes about *when there is no clear content to be had*" (176). Hence, it is the reconstructed experience that eventuates as the consequence of an action

directed by thought which stands as the tribunal for thought. The chapter is very efficiently laid out: it sets the problem in the terms of Dewey's own dilemma between the "seesaw" of the dualists' Given of sensation and the idealists' coherentism, echoing the previous discussions of Rorty and Brandom, and goes on to contrast Dewey's position with McDowell's solution to that problem.

- 21 While the previous chapter focused on Dewey's instrumentalist phase, Chapter 6 focuses on Dewey's later naturalistic empiricism. Levine presents Dewey's account on its own terms, before comparing it to McDowell's account of "second nature," arguing that "Dewey's account of experience as 'second natural' can support a realist theory of answerability while McDowell's can't" (218). Levine then responds to Rorty's claim that Dewey's account of experience falls prey to the Myth of the Given. He convincingly argues that, while Dewey does blur the line between cognitive and noncognitive states, perceptual experience is not "Given in a mythical way," in the sense of having epistemic authority on thought or action without being mediated or capable of mediation by reasons (228). For Dewey, all experiences are "mediated by prior operations of reflective problem solving and reason giving" and "admit of potential reason giving in becoming tensional or indeterminate" (229). However, it is surprising that Levine did not also appeal to Dewey's extensive criticism of perception as a "case of knowledge," Dewey's point being precisely that perceptual experience, in its immediacy, has no intrinsic cognitive value. In *Experience and Nature* (1925), Dewey introduces a further mediation besides the ones Levine already pointed out: the use of a perceptual experience as a sign of (unperceived) objects or conditions is what can properly be said to have cognitive or epistemic value.
- 22 Levine took up and succeeded in the task of creating a lively, extensive and productive conversation between the classical pragmatists and more recent figures in post-analytic philosophy. Their differing philosophical starting points, backgrounds and terminologies make this kind of work a challenging enterprise. It is in fact rare to find such in-depths discussions of both sides of the dialogue. The studies of James and Dewey in particular are often primarily exegetical, with the regrettable consequence that their works are sometimes relegated to the domain of the "history of philosophy." On the other hand, when their ideas are used in contemporary discussions, it is often at the expense of a careful reading of their works – Rorty's selective and creative reading of Dewey being an extreme example of this tendency. Avoiding both pitfalls, Levine's combination of careful scholarship and critical engagement is surprisingly evenly distributed between Brandom and Dewey, Davidson and James, Strawson and McDowell. For this reason and the ones already mentioned, Levine's book represents an important contribution to pragmatist philosophy.

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WARD Roger, *Peirce and Religion: Knowledge, Transformation and the Reality of God*

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REFERENCES

WARD Roger , *Peirce and Religion: Knowledge, Transformation and the Reality of God*, Lanham, Lexington Books, 2018, 184 pages

- 1 Widely known among philosophers and scholars as one of the most important logicians in the history of Western philosophy, C. S. Peirce is not equally known as an intellectual whose work was guided by theological views. In other words, compared to his profound contributions in other areas – logic, semiotics and epistemology, to name but a few –, the religious dimension of Peirce's thought has not yet received all the attention it deserves. What explanations can be given of this neglect? Firstly, as pointed out by M. L. Raposa, Peirce wrote very little that can be considered explicitly devoted to this topic. Secondly, Peirce's contributions in several branches of knowledge – not to mention the fact he can be regarded as the most important founding father of pragmatism – may have tended to eclipse what he had to say about religion. In fact, this neglect has proved itself to be unfortunate and infelicitous because what Peirce wrote about logic, semiotic and epistemology is intricately linked to his religious ideas. Roger Ward's new book sheds light on Peirce's religious thinking and examines his religious ideas in relation both to his biography and to his philosophical system.
- 2 More precisely, Ward proceeds both systematically through Peirce's work and biographically through his life. This is a quite distinctive and peculiar feature of Ward's book since there are few volumes about Peirce that intersperse philosophical analysis with biographical reflections and that investigate how Peirce's work continuously

evolved in response to new experiences and shifting circumstances. In short, Ward tells a story about the evolution of Peirce's religious beliefs from his youth to his later years up until his death in 1914 and argues that Peirce's religious perspectives exercised a great influence on the development of his philosophical system. To put it otherwise, the background of Christianity is an essential element to properly understand Peirce's reflections.

- 3 The story Ward tells us begins with the description of three early influences on young Peirce's religious personality. First is the figure of his father, Benjamin Peirce Sr. – a remarkable scientist who held the chair of mathematics and astronomy at Harvard College and who is now considered the most brilliant mathematician to have appeared in America before the Civil War –, “whose deeply religious approach to mathematics and science established the grounds of Peirce's religious understanding” (3). Next is Harriet Melusina Fay, who made Peirce leave his family's Unitarianism to join her tradition in the Episcopal Church. The third is Frederic Dan Huntington, Plummer Professor of Morals and Harvard preacher from 1855 to 1859, when Peirce was an undergraduate student.
- 4 Benjamin Peirce Sr. was an intensely religious thinker, “often expressing his convictions of a biblical Unitarian faith in evolutionary scientific terms” (3). He also used to think of God as a Creator who reveals his divine character in the physical laws discovered by science and, furthermore, his evolutionary rationalism held that the universe was progressing as an expression of an infinite mind. Indeed, this concept of cosmic evolution would profoundly influence C. S. Peirce's cosmology and would bring about his hesitations toward C. R. Darwin's evolutionary theory, which he always considered to be incapable of accounting for the teleological functioning of the human mind. In the early 1860s, Peirce Jr. married Melusina Fay – her father was a Harvard classmate with Benjamin Peirce and their families were friends – and moved over to Trinitarianism and the Episcopal Church. As Ward puts it, Charles and Zina – as she was called by family and friends – developed a quasi-pragmatist conviction about the proper goal of human life, which “included the commitment to prove the truth of one's beliefs by living them as a means of changing currently held beliefs and practices” (6). Notwithstanding, though he abandoned Benjamin's Unitarianism, C. S. Peirce developed many of his father's other ideas, for example, about the significance of scientific inquiry as a religious vocation and the ideality of nature. In this regard, Ward reminds us that Peirce Jr. credits his father in the *Century Dictionary* in 1889 with Ideal-Realism. As previously mentioned, Ward discerns a third influence on C. S. Peirce's thinking, that of Professor Huntington, who entered the Episcopal Church in 1860. Ward's argument is that there are linguistic and conceptual echoes of Huntington's sermons in Peirce's 1863 oration entitled “The Place of Our Age in the History of Civilization.”
- 5 But the examination of this early lecture is just the beginning of Ward's compelling story. In Chapter 2, Ward convincingly argues that Peirce's Christian commitment is essential to his logic. Actually, Peirce believes that thought is a species of symbol; the interpretant of the symbol is essentially identical with the symbol and also the ground of the comprehension of the symbol is basically equal to it, since it completely determines the symbol itself in all respects. As Peirce says, “[this is the] divine trinity of the object, interpretant, and ground, [and] each fully constitutes the symbol and yet all are essential to it” (CE: I, 503). He also adds that this trinity agrees with the Christian

Trinity, the interpretant being the Divine word and the ground corresponding to the function of the Holy Spirit. In this regard, “completing the pattern [would mean] the object is Father” (32), but Ward tells us that Peirce hesitates at this point. In short, Ward illustrates how Peirce’s relationship to Christianity supplies the background against which his logical thinking unfolds.

- 6 In Chapter 3, Ward shows us Peirce’s challenges of the utilitarian claim of the primacy of human self-interest with the claim that the social principle is rooted intrinsically in logic and contends that the so-called “conversion to community” is deeply connected to his understanding of the church. In Ward’s words, “the centrality of a ‘community of inquirers’ in [Peirce’s] later work is an indication of his persistent commitment to the Christian tradition” (40). Ward also specifies that Peirce’s attention to logic and community has origins in his religious convictions – convictions which subtend his philosophical development.
- 7 In Chapter 4, Ward reminds us of the crisis Peirce suffered in 1876, when he collapsed in a nervous breakdown at the end of the year working in Europe. His father ordered Peirce’s wife to retrieve him from Paris and she did so. But when Peirce moved to New York to continue his work with the U.S. Coast and Geodesic Survey, she did not go with him. This separation ended their 15-year marriage and his connection to the Episcopal Church as well. Moreover, Ward affirms that in 1878 essay “The Order of Nature” Peirce rejected one of the most important ideas of his father’s religious approach to science, claiming that science is hostile to any religion. In this respect, Ward speculates that this ideological rupture “must have weighed heavily on Charles, especially since it was followed soon after by his father’s death” (57). Nevertheless, Peirce would change his mind again; indeed, in 1908 article “A Neglected Argument for the Reality of God,” he would show that the disjunction of science from religion is unjustified because, as Ward puts it, “science apart from religion loses its objective force [and] religion without scientific discipline stands on unsure foundations” (129).
- 8 Taking the discussion a little further, Ward considers that the above-mentioned Peirce’s period of crisis – that begins around the time of his separation from Melusina Fay in 1876 and continues into the 1880s, and that is one of the many periods of time in Peirce’s adult life that are marked by some sort of crisis – can be defined as “atheistical.” To be more accurate, Ward says that Peirce’s “Illustrations of the Logic of Science,” an early and essential work in the philosophy of science which contains, in addition to “The Order of Nature” and other essays, his two most influential papers, “The Fixation of Belief” and “How to Make Our Ideas Clear,” is written “against the dark background of religious absence in Peirce’s life at the time leading him to argue for the ‘atheistical issue’ of science” (xv). Conversely, I believe there are no robust grounds for concluding that Peirce had stopped seeing himself as a Christian in that period and that therefore he had developed atheistic philosophical perspectives, even if he ceased to be an active member of the Episcopalian Church. Firstly, as also pointed out by M. L. Raposa, the views articulated in Peirce’s 1878 article “The Order of Nature” are consistent with those that he would defend later in his life; indeed, albeit Peirce writes that “the spirit of science is hostile to any religion” (CP 6.426), we have to keep in mind that his statement is made within a context in which he seems to criticize those priests who do not consider themselves “teachers of religion in general [but teachers] of the particular system of theology advocated by their own party” (CP 6.427), and not to reject religion itself. Secondly, in “The Fixation of Belief,” Peirce describes

the transition from the method of tenacity – that is, a method of inquiry which consists in taking up a private belief and sticking to it – “to a scientific philosophy as seeking a method of resolving doubt into settled opinion” (60). As it is known, the scientific method entails the existence of a community of inquirers, and the centrality of such a notion – a notion which is deeply connected to Peirce’s understanding of the Church, as we have already seen – seems to be an indication of his never-ending commitment to Christianity. In other words, I would not think that Peirce’s divorce from Zina and his above-mentioned period of crisis could be considered abyss-like experiences which developed him into doubt about the truth of Christianity in such a way as to make him reflect in atheistic terms, and consequently I would not be so sure there is clear break between the 1878 articles and the later ones. I think my view is precisely confirmed by what Ward himself writes in the following of his book, as I will try to show in the next paragraph.

- 9 In fact, Ward tells us that Peirce made a Sunday morning visit to St. Thomas Episcopal church in New York in the Spring of 1892 and that he had an experience that compelled him to write to the rector of the church. Peirce confessed the rector he had always had a passionate love for the church and a complete faith that the essence of Christianity was Divine, and Ward argues that “the effect of this return to the church is apparent in the ‘Monist’ essays written after this date” (59); the 1892 article “The Law of Mind,” for example, contains the notion of God as a personal creator. More precisely, Ward uses the above-mentioned notion of “return” in a physical and habitual sense, completely rejecting the idea that Peirce could be able to ever entirely separate his thinking from the relation to religion. So, I do not believe we can say that there was a “dark background of religious absence in Peirce’s life” (xv) when he published his famous “Illustrations of the Logic of Science.”
- 10 Further in the book, Ward also argues that Peirce’s religious ideas are linked to the practical effects that pragmatism promises and that become materialized in willful choices and action. In his own words, “[these ideas] play both a background role in shaping this demand and provide the content for its manifestation in practice” (101). Then, after interestingly and incisively examining Peirce’s early logical and semiotic investigations and the development of his pragmatic ideas in the 1870s, Ward goes on discussing the emergence of his “pragmatism” in the 1890s and the blossoming of his bold and fascinating cosmological conjectures.
- 11 Finally, Ward takes into account Peirce’s last published essay “A Neglected Argument for the Reality of God” and recognizes the confessional character of the argument itself as a product of his own pragmatism, adding that such a character “is relevant for understanding scientific logic as conducing to the truth of religion” (131). He also shows us the importance of both Peirce’s philosophy of human instinct and his theory of scientific inquiry for understanding that argument. Moreover, Ward examines Misak’s and Anderson’s resistance to Peirce’s confessional project of reconciling scientific thought to the living character of a Real God, saying that Misak is wrong not to recognize self-controlled growth in the conduct of life as a criterion for testing the consequences of believing in God’s reality.
- 12 Contrary to Ward’s thesis, I would argue that Misak is quite right in thinking that Peirce does not show any testable empirical consequence of the belief in God’s reality, even if “he boldly asserts that he has shown [such consequences]” (Misak 2013, *The American Pragmatists*, 45). In fact, the pragmatic maxim – a principle of inquiry which is

“no doctrine of metaphysics, no attempt to determine any truth of things [but merely] a method of ascertaining the meaning of hard words and of abstract concepts” (CP 5.464) – states that to determine the meaning of a cognitive sign we must “consider what effects, which might conceivably have practical bearings, we conceive the object of our conception to have” (CP 5.402), and Peirce does not clearly show what the effects of the concept of God are. More precisely, Peirce suggests that if “God is real” were true, then we would expect there to be a tendency toward habit-taking and growth, and also that things would be harmonious in the world. As can be seen, it is not at all clear what we would expect if such a hypothesis were true, nor is it clear that we would expect what Peirce says. As Misak puts it, “[Peirce] seems to have been aware of the soggyiness of his argument, for each time he begins to talk about ‘tracing out a few consequences of the hypothesis’, he quickly changes subject” (Misak 2004, *Truth and the End of Inquiry: a Peircean Account of Truth*, 32). However, I do not think Peirce’s lack of success in showing the pragmatist legitimacy of the metaphysical hypothesis “God is real” is indicative of the paucity of pragmatism.

- 13 In summary, the author of *Peirce and Religion* provides us with a persuasive demonstration that Peirce’s religious ideas and perspectives about community, conversion, love as *agape* and Trinity play a crucial role in the construction of his complex philosophical system, a crucial role that has not yet been fully recognized as such. But ignoring Peirce’s Christianity and the religious dimension of his philosophical personality would mean the risk of misunderstanding key elements of his reflection. In conclusion, Ward’s book offers us a very deep vision of Peirce’s pragmatism – a vision that anyone seeking insight into the development of his pragmatic thought should have to confront with.

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SKOWROŃSKI Krzysztof Piotr & Sami
 PIHLSTRÖM (eds), *Pragmatist Kant:
 Pragmatism, Kant, and Kantianism in
 the Twenty-first Century*

Helsinki, Nordic Studies in Pragmatism 4, 2019, 327 + x pages

Jared Kemling

REFERENCES

SKOWROŃSKI Krzysztof Piotr & Sami PIHLSTRÖM (eds), *Pragmatist Kant: Pragmatism, Kant, and Kantianism in the Twenty-first Century*, Helsinki, Nordic Studies in Pragmatism 4, 2019, 327 + x pages

- 1 *Pragmatist Kant: Pragmatism, Kant, and Kantianism in the Twenty-first Century* is a collected volume featuring chapters from seventeen different authors. As the title indicates, the goal of the volume is to explore the relationship between the Kantian and pragmatist philosophical traditions – in both their historical and contemporary configurations. The editors note that “The papers collected in this volume were originally presented at the international conference, Pragmatist Kant, organized by Chris Skowroński and his Berlin Practical Philosophy International Forum e. V. (in collaboration with the Nordic Pragmatism Network as well as the Philosophical Society of Finland) at the Finnland-Institut in Berlin, Germany on July 10–13, 2017” (p. iii). The versions of the papers found in this volume were extended, revised, and peer-reviewed from their original conference forms.
- 2 The volume is published online and open access by the Nordic Pragmatism Network; it can be downloaded for free from their website,¹ and it is the fourth volume in their “Nordic Studies in Pragmatism” series. Providing a collected volume of philosophical thought in such an open and accessible way is commendable in any circumstances, but

happily this volume retains the professional formatting and editing that one would expect from a printed volume. The decision to publish open access can therefore be understood as an ethical and pedagogical commitment rather than an attempt to skirt professional rigour.

- 3 The editors introduce the content of the volume by noting that pragmatists (who they describe as committed to naturalism and empiricism) might seem to naturally reject Kantian transcendental philosophy (as overly rationalistic and fixed: and therefore not conducive to pragmatist experimentalism and fallibilism). Nevertheless, they note that “several pragmatist thinkers, early and late – from Charles S. Peirce to Hilary Putnam and beyond – have taken very seriously the deeply ‘Kantian’ features of their pragmatism” (v). Thus, the volume aims to evaluate this relational tension, with several contributors aiming to, for example, “offer a pragmatically reinterpreted version of transcendental idealism as a kind of practice-embedded constructivism” (vi).
- 4 Thus, pragmatists can be understood as “Kantian” in the sense of inheriting and reinterpreting Kantian themes, without being forced to agree with any specific Kantian argument. However, the aim of the volume is not to argue this point dogmatically, as “many of the contributors to this volume are also highly critical of such suggestions and argue that pragmatism ought to remain fundamentally non – or even anti – Kantian” (vi). Thus, the volume aims not to pass judgment on the issue, but rather to engage in a dialogue that the editors believe illustrates the spirit of both the Kantian critical project and pragmatic fallibilism.
- 5 Given that this volume represents contributions from seventeen different figures on as many different topics, I believe the most important service I can contribute with this review is to provide a brief description of each chapter so that the reader can judge whether they are interested in the material contained. I will follow this overview of the contents of the volume with a few brief remarks concerning the themes of the volume and the overall quality of the chapters.
- 6 Part One of the volume is entitled “Cognition and Science” and contains the first four contributions. Interestingly, the editors clarify and describe this section as organized around issues of “theoretical philosophy.” In Chapter One, Joseph Margolis’ (Temple University) “Between Pragmatism and Rationalism” provides critical remarks toward the idea of pragmatism as a kind of transcendental philosophy. Along the way he makes to provocative claim that “Kant is the most advanced regressive figure that we know: superannuated almost from the start of the Critical undertaking, but never obsolete” (3). Margolis served as the keynote speaker for the conference, and therefore his essay here appropriately serves to inaugurate the discussion. In Chapter Two, Henrik Rydenfelt’s (University of Oulu) paper “Kant and Peirce on Pragmatic Maxims” discusses whether Peirce’s formulation of the pragmatic maxim should be understood as indebted to Kant. Specifically, he argues that “Kant clearly prefigured Peirce’s pragmatism in his claim that there is a connection between theoretical judgments and practical imperatives (or principles of conduct)” (27).
- 7 Chapter Three continues the discussion of Peirce, as Giovanni Maddalena’s (Universita del Molise) “Anti-Kantianism as a Necessary Characteristic of Pragmatism” uses Peirce to make the case the pragmatism should (at least ideally) remain fundamentally anti-Kantian. Maddalena makes the case that “Peirce’s concept of continuity, and Kant’s alleged misconception of it, allowed Peirce to understand why in Kant’s thought there is always a ‘gap’ between knowledge and the reality to be known, between the

‘phenomenon’ and the ‘thing-in-itself.’ This gap had troubled him since his early philosophical studies” (45).

- 8 Part One is concluded with Hemmo Laiho’s (University of Turku) “Kant’s Universalism versus Pragmatism.” Laiho argues that universalism is the most important divide between Kant and the pragmatists. According to Laiho, pragmatic emphasis on contingency, experimentalism, and fallibilism preclude them from endorsing universalizability in the Kantian sense: “This is not to say that a pragmatist cannot take a universal point of view per se. However, I do think that the pragmatist must avoid taking such a view in the specific sense that it involves laying out a set of basic preconditions for some phenomenon independently of the factual variances and contingencies the phenomenon in question reveals within the context of our actual practices and experiences.” (61).
- 9 Part Two of the volume is titled “Methodology and Communication” and contains the next three essays. In Chapter Five, Guido Baggio (Roma Tre University) takes us back toward Peirce, this time to seek a quasi-transcendental account of sem(e)iotics in “Sense, Sign’s Sense, and Gesture: For a Quasi-Transcendental Semiotics.” Specifically, that entails the desire to “offer a new theoretical solution to the issue raised by the Kantian transcendental scheme concerning the connection between the sensible manifold and the unity of the concept. To do this, I intersect Frege’s notion of sense [Sinn] as distinct from meaning [Bedeutung], with Morris’ semiotics and his idea of the ‘sign vehicle,’ and with Maddalena’s theory of gesture.” (78).
- 10 In Chapter Six, “Kant and Pragmatists: On the Supremacy of Practice over Theory” by Agnieszka Hensoldt (University of Opole) compares Kant to Peirce, Dewey, and Rorty while exploring the relationship between philosophical practice and theory. This culminates in an inquiry as to “what differences of visions of human intellectual activity Kant’s and pragmatists’ doctrines provide us with and what their strengths and weaknesses are” (99). In the last entry in Part Two, we have Tom Rockmore’s (Peking University) “Kant, Pragmatism and Epistemic Constructivism,” which interprets the views of Kant, and certain pragmatists, as forms of epistemic constructivism. Rockmore suggests “that pragmatic constructivism goes further than Kantian constructivism, but that both fall short of what I will be calling a historical approach that remains to be worked out” (116).
- 11 Part Three, “Anthropology, Psychology and Religion” offers another four entries organized around the given themes. In Chapter Eight, Phillip McReynolds’s (UNC Charlotte) “Does Pragmatism Need a Concept of Autonomy?” explores the Kantian concept of autonomy in relation to pragmatism. McReynolds declares that “The very idea of a separate realm of autonomous reasons or actions violates the pragmatic principle of continuity in several ways” (134). The next chapter sees Matthew Crippen’s (Humboldt University Berlin & Grand Valley State University) “Pragmatic Evolutions of the Kantian *a priori*: From the Mental to the Bodily,” which makes the case that Kant’s transcendental *a priori* evolves (in pragmatism) out of a mental categorization and into a bodily one. Crippen seeks to “challenge those who neglect the relevance of Kant’s philosophy to embodied views, along with those who dismiss the Kantian *a priori* as a dead end. In the hands of pragmatists and like-minded thinkers such as Maurice Merleau-Ponty, the Kantian *a priori* has evolved into embodied positions that shed considerable light on human experience.” (151).

- 12 In Chapter Ten, Michela Bella (Roma Tre University) offers a comparative study of the psychological theories of William James and Kant in “James and Kant on Empirical Psychology.” Bella describes some “interesting criticisms made by James particularly about Kant’s conception of the Ego as a logical function, meant to criticize Kant’s dualistic view (phenomenon/noumenon) and to justify his substitution of the transcendental Ego by the present passing Thought of the ‘stream of consciousness’” (172).
- 13 The last entry in Part Three, “Jamesian Pragmatism, Rortyan Ironism, and Kantian Antitheodicy” by Sami Pihlström (University of Helsinki) furthers the conversation between James and Kant (with Rorty added for good measure), but this time focuses on themes in philosophy of religion – especially the problem of evil. Pihlström concludes with a description of how “what might be considered a potential slippery slope from James to Rorty arises from the Kantian background of pragmatist antitheodicism” (190).
- 14 Part Four is titled “Ethics and Aesthetics” and features three chapters. In Chapter Twelve, Sarin Marchetti’s (Sapienza Università di Roma) “Kant, James, and the Practice of Ethics” again focuses on the comparison between Kant and James, transitioning nicely out of part three by moving the topic into the realm of ethics – but an ethics still in dialogue with philosophical anthropology and psychology. Marchetti argues that Kant and James share “a conception of pragmatic anthropology and psychology which illuminates an important dimension and register of the moral life that moral philosophy should account for – that is, self-cultivation and experimentation” (214). Next, Alexander Krémer (University of Szeged) presents Richard Rorty’s criticisms of Kant’s ethics in the paper, “Rorty on Kant’s Ethics,” suggesting that pragmatism (at least of the Rortyan variety) rejects the foundationalism, universalism, and rationalism that Kantian ethics seems to require. Krémer argues that “Rorty recognized clearly the unsolvable inner contradictions of Kant’s ethics, which come from his special philosophical anthropology, and replaced it with a new pragmatist, evolutionary view of the human being” (235). In Chapter Fourteen, the last essay in this section, Krzysztof (Chris) Piotr Skowroński (University of Opole & Berlin Practical Philosophy International Forum e.V.) contributes the essay “Does the Pragmatist Reflection on the Ethical and Aesthetic Values Need the Kantian Axiology for its (Pragmatist) Future Developments?” Skowroński seeks to show that (potentially in opposition to the Rortyan arguments outlined in the previous chapter), pragmatists might require Kantian axiology in order to advance their ethical and aesthetic commitments. Skowroński is especially concerned that “the challenge for philosophers that emerges out of it [the rise of mass-media], in my view, is the need to link the message on ethical values with the aesthetic values of the narratives and within them” (254).
- 15 The last section of the volume (Part Five) is entitled “Social and Political Issues.” To begin the final part, Jacquelyn Kegley’s (CSU Bakersfield) “Kant as Public Intellectual and Political Theorist,” raises the possibility that Kant could be seen as a kind of “public intellectual,” and that his political writings bring him closer to the pragmatists than is often recognized. Kegley points out that “In these public essays, Kant argues for the public use of reason, the freedom of the pen, the principle of publicity, and the necessity to make one’s philosophical work public. He believes philosophy should initiate and promote enlightenment. He shares these beliefs with American pragmatists, such as Dewey and Royce.” (273).

- 16 Shannon Sullivan (UNC Charlotte) argues in “Kant and Pragmatist Feminism” that, at least when seen through the lens of Josiah Royce’s philosophy of loyalty, pragmatist feminists may find a use for portions of Kant’s moral philosophy. Sullivan describes how “understanding Kantian respect in terms of Roycean loyalty can achieve three things. It helps feminists (i) avoid the emphasis on rationality central to Kant’s moral philosophy, (ii) reinforce Kant’s inclusion of self-respect as an important component of respect, and (iii) reduce the exclusionary aspects of the universalization of respect.” (288).
- 17 Ending the volume, Chapter Seventeen’s “Peace, Bread and Ideas for a Cosmopolitan World: Addams’ Unknown Pragmatist Legacy Today” by Nuria Sara Miras Boronat (Universitat de Barcelona), brings Jane Addams into discussion with Kantian cosmopolitanism. Boronat writes that “Kant’s view of history as a plan of nature to reach perpetual peace between nations and its cosmopolitan ideal as the historical and moral telos has been very influential in shaping our current world in many ways. According to my reading, these ideas are very close to what I call the utopian moment within pragmatism.” (308).
- 18 As the reader can hopefully see (even with the quick overview given here), a broad selection of classical and neo-pragmatists are represented in this volume: C. S. Peirce, William James, John Dewey, and Richard Rorty are (not surprisingly) most heavily discussed, but Josiah Royce, Charles W. Morris, and C. I. Lewis also received significant attention. Mention is also made of George Herbert Mead, Robert Brandom, Hilary Putnam, Wilfrid Sellars, Nicholas Rescher, and others. The chapters address a wide variety of themes, and the editors have done an admirable job at trying to group the essays together into coherent sections – of course, as with any volume of this kind, it is hard to find common ground for some essays, resulting in thematic sections that are fairly broad. The upside of this is that the contributions to the volume are wide ranging and cover a great deal of territory, ranging from metaphysical, epistemological, ethical, aesthetic, and socio-political concerns. Very little that would be of interest to Kantian or pragmatist philosophers has been excluded.
- 19 The authors themselves also represent a (relatively) diverse group of scholars, many of whom are very well established and respected in their fields. The authors are primarily based in Europe and the U.S., which does mean that engagement with pragmatist scholars in Latin America, China, or other areas is not well represented. As one would expect from a series focusing on pragmatist thought, the basic perspective of the authors is largely pragmatist, and Kantianism is evaluated generally from that standpoint.
- 20 One aspect of the volume that I would have liked to see more engagement on is the relation between pragmatism and the ongoing development of Kantian thought (i.e. Neo-Kantianism, German idealism, phenomenology, and other inheritors of Kantianism). Despite the editors making a point to define the Kantian tradition broadly enough to include the inheritors of Kant, most of the chapters deal with the way that pragmatists relate to Kant himself, rather than the tradition that follows him. In this regard I wish to temper the readers expectations so that they do not see the title and assume that there will be significant discussion of 21st century Kantianism and its relation to 21st century pragmatism – the volume predominantly relates classical and neo-pragmatists to Kant himself, and not the Kantian tradition as a whole.

- 21 I do not consider this a significant defect of the volume – of course it makes sense to focus a lot of attention on Kant himself – but I do believe that merely juxtaposing pragmatists with Kant himself is somewhat anachronistic, and is in danger of missing the way that the pragmatists would have actually encountered Kant and Kantian ideas. Because, of course, in addition to reading Kant, the pragmatists would have encountered him (in various modified forms) in diverse strands of their contemporaries as well. I do not wish to give the impression that the articles here are historically naive, which is not the case – it is simply a matter of focus and orientation. The major exceptions to this lack of focus on post-Kantian developments are Margolis' use of Ernst Cassirer, and Skowroński's use of Windelband – both authors spent time engaging with Neo-Kantian strands of thought in addition to Kant himself. However, I believe that including more full-fledged discussions on this topic (including entire articles devoted to later Kantian developments as related to pragmatism) would have been interesting – perhaps such an issue could be explored by future projects in the series.
- 22 To summarize, I believe that any readers interested in pragmatism broadly will find something of value here; readers engaged in studying the historic roots of pragmatism should find much of interest. I think the volume would also be of value to Kantians who are interested in the way Kantian ideas were inherited and modified by American pragmatists. The authors represent a diverse array of European and U.S. pragmatists, and all of the papers are thoughtfully prepared, clearly written, and professionally presented. Considering that the volume can be read and downloaded for free online, I believe that interested readers have every reason to look into *Pragmatist Kant: Pragmatism, Kant, and Kantianism in the Twenty-first Century*. The relationship between pragmatism and Kant is an issue that has been receiving increased attention in the last several years (which I personally approve of), and I believe that this trend will continue. As pragmatism becomes an increasingly global movement that seeks to re-imagine itself for new times and cultures, it only becomes more important to understand the philosophical connections and milieu that pragmatism arose from – even if only to better understand the resources that pragmatism can bring to bear on still-emerging philosophical problems.

NOTES

1. [nordprag.org/nordic-studies-in-pragmatism/pragmatist-kant/].

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