MIMESIS
INTERNATIONAL

POLITICS
n. 18

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DEMOCRATIC DELIBERATION AND PUBLIC BIOETHICS

The Role of Moderators in Moral and Political Disagreements

MIMESIS
INTERNATIONAL

This volume is published with the support of the Department of Oncology and Hemato-Oncology, University of Milan.

www.mimesisinternational.com
e-mail: info@mimesisinternational.com

Isbn: 9788869774133
Book series: *Politics*, n. 18

P.I. C.F. 02419370305

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Bioethical experts in today's societies

Over the past several years, the presence of bioethical experts has been steadily on the rise in an ever-increasing range of domains. They sit on research ethics committees providing ethics oversight to research conducted in (mostly) the health domain; they are members of hospital ethics committees performing ethics consultation on moral dilemmas in clinical practice; they join national and international bioethics commissions endowed with advisory tasks as well as policy-making roles; finally, they hold research positions and perform teaching duties within different faculties and departments in academia. In all these settings, bioethical experts are mostly considered as authoritative sources of knowledge on ethical matters, and therefore they are increasingly entrusted with direct or indirect political and decisional authority by the institutions in which they operate, and even the community at large. And while in some cases their provisions take the form of non-binding guidance, in other contexts (e.g., research ethics committees) their indications result in binding requirements, having both ethical and legal implications.

In light of its ever-growing salience, the scholarly literature has long since started to explore the issue of bioethical expertise. This label refers to the questions investigating the meaning and practices of "expertise" in the ethics domain, including the legitimacy of bioethical experts' power, thus asking on what basis and under what conditions bioethical expert guidance – binding and non-binding – may be defined as legitimate. The issue of bioethical expertise is considered one of the foundational questions

of contemporary bioethics (Ashcroft 2010; Kovács 2010; Niv 2022). Because bioethical experts are hired professionals, rather than democratically appointed public officers, the issue of the justification underlying their (decisional or advisory) power has become one of utmost relevance.

In broad terms, philosophical and bioethics literature has come to identify three sets of questions dealing with the issue of bioethical expertise: (i) "conceptual questions on bioethical expertise", (ii) "authority questions on bioethical expertise", and (iii) "political questions on bioethical expertise".

The "conceptual questions on bioethical expertise" pertain to strictly foundational and epistemological issues, concerned with investigating the conditions of possibility of expertise in the field of bioethics, as well as the epistemological status of bioethical knowledge. Accordingly, these questions address whether particular expertise in the field of bioethics exists at all, the nature of its content, and the knowledge it conveys (Weinstein 1994; Steinkamp and Gordijn 2001, 2008; Rasmussen 2005; Varelius 2008; Schicktanz et al. 2012; Driver 2013; Priaulx 2013; Buckwalter 2014; Cross 2016; Iltis and Sheehan 2016).

The "authority questions on bioethical expertise" shift the attention from the concept of bioethical expertise to the figure of the bioethical expert. This set of questions is intended to shed light on the bioethicist as professional, asking who should be entitled to be defined as such, and whether possessing a philosophical background represents an essential pre-requisite in this context. In order to address this set of questions, the literature proceeds first with the identification of the core competences typically ascribed to bioethical experts, while further considering which kind of professional is most likely to possess them (Gesang 2010; Archard 2011; Cowley 2012; Gordon 2014; Schwitzgebel and Cushman 2015; Priaulx et al. 2016; Bach 2021; Niv 2022).

Finally, the "political questions on bioethical expertise" are geared to investigate the role performed by bioethical experts in (democratic) societies, notably within the context of public decision-making, asking, in particular, whether experts' decisions-making prerogatives should be increased, restricted, or rethought

according to the principles of liberal democracies (Moore 2010; 2012; Majdik and Keith 2011; McGee 2011; Pellegrino 2015; Littoz-Monnet 2020; Bistagnino 2020; Bistagnino and Biale 2021).

Apart from conceptual questions of the kind just outlined, the topic of bioethical expertise has been explored – in a largely empirical fashion (e.g., Moore 2010; Niv and Sulitzeanu□Kenan 2022) – in relation to the different types of roles bioethical experts are required to fulfil within a variety of different settings. In particular, it is possible to identify three major roles ascribed to "ethics bodies", broadly understood (Furlan 2015), which in turn underpin the tasks or "functions" bioethical experts are expected to perform: (i) ethics oversight and/or ethics advice; (ii) bioethics training; and (iii) preparation and/or revision of ethics statements/policies/guidelines.

The first function usually ascribed to ethics bodies and bioethical experts is to provide ethics oversight and/or ethics advice. The expression "ethics oversight" mostly refers to the family of functions performed by research ethics committees, while "ethics advice" relates to the set of activities performed by clinical ethics committees. Such terminological distinction follows the diverse regulatory profile of the two institutional bodies. In their research oversight capacity, research ethics committees are established as top-down bodies, institutionally appointed to deliver stringent provisions, whose content is binding to all stakeholders involved in human-subject experimentation. Conversely, clinical ethics committees are mostly the result of bottom-up, spontaneous initiatives, developed to analyse and provide non-binding advice on controversial clinical cases of ethics relevance to healthcare professionals, patients, and their relatives. There is a clear difference between the two scenarios in terms of power granted to bioethical experts, involving binding power in the former case, *versus* advisory non-binding power in the latter. Yet, since collected evidence suggests that advice provided by bioethical experts – as being clinical ethics consultants – has a strong persuasive impact on stakeholders' decisional pathways (Garrard and Dawson 2005), questions around legitimacy equally apply in this context.

The second function performed by ethics bodies and bioethical experts is to provide training on (bio)ethical issues. Such training may revolve around a wide variety of topics, ranging from traditional bioethical issues (e.g., beginning-of-life or end-of-life issues) to ethical issues related to innovative research fields (e.g., ethical issues in organoid research or in silico trials). Moreover, bioethics training may be directed towards very different audiences, involving, amongst others, students, healthcare professionals, ethics committees' members, regulators, and even the citizenry. Yet, as a recent systematic review has shown, bioethics training – despite its widely-recognized relevance – continues to be an underestimated and underreported function of ethics bodies more generally, and bioethical experts more specifically (Crico et al. 2020).

The third – and crucial – function is the preparation and/or revision of ethics statements, policies, or guidelines (decision-making function). This function is typically performed by experts working within (national, supranational, or international) public bioethics bodies, the latter defined as the whole range of bodies and related procedures that have emerged from rapid advances in health care provision, health technology and medical research, appointed to inform and guide public decision-making with respect to ethically-sensitive issues (Kelly 2003; Moore 2010). Differently from the other two functions, literature on this topic is still very limited (Crico et al. 2020), which is rather surprising if we consider the relevant impact that ethics statements, policies, or guidelines may have, either directly or indirectly, on a given community.

Bioethical expertise and public decision-making

Against this backdrop, this work sets out to tackle the issue of bioethical expertise by investigating its role within public decision-making on ethically sensitive issues, in the context of liberal democratic societies. In particular, drawing on the previously defined "political questions on bioethical expertise", as they arise in the context of public bioethics bodies performing

the decision-making function traced in the previous paragraph (Childress 2020), this volume investigates how the decisional power granted to bioethical experts in the public arena (either directly, through policy formulation, or indirectly, through their prerogative to influence decision-making) can be best aligned with the ideal tenets of decision-making in democratic societies. In other words: what role should be granted to bioethical experts in the public arena? Under what conditions may their power be considered as legitimate? And, on a broader scale, what should be the functions of public bioethics bodies?

As this volume focuses on the role performed by public bioethical experts and public bioethics bodies (two terms used largely interchangeably throughout the volume for the reasons outlined in what follows) as they engage in public decision-making processes over ethical controversial issues, extensive space will be devoted to discussing public decision-making ideals, practices, and methods, with a particular focus on deliberation.

Political theorists usually recognize two prevalent, alternative models of public decision-making in case of mutually-binding decisions in the context of deep disagreement: the aggregative model of public decision-making and the deliberative model of public decision-making (Austen-Smith and Banks 1996; Peter 2009; Saunders 2010; Perote-Peña and Piggins 2015; Estlund and Landemore 2018). As it will be shown, deliberative decision-making has been argued to represent a more suitable as well as legitimate method, with respect to its aggregative counterpart, to address moral dilemmas of public relevance. Notably, because of its potential in transforming citizens preferences from less to more considered and refined opinions, its attention to reciprocity in public exchanges, its promotion of mutually respectful decisional processes, and its contribution to the development of public-spirited perspectives, public deliberation appears as ideally suited for addressing the challenges faced by public bioethical experts and bodies as they deal with moral controversies arising in the public sphere (Crawshaw et al. 1985; Bowling, Jacobson, and Southgate 1993; Bowie, Richardson, and Sykes 1995; Gutmann and Thompson 1997, 2004; MacLean and Burgess 2010; King et

al. 2010; Meagher and Lee 2016; Kim et al. 2017; Abelson et al. 2020).

Against this backdrop, this volume aims to provide both a theoretical and an empirical contribution to the scholarly debate on this topic. Theoretically, this study proposes a normative figure of the public bioethical expert inspired by the principles of deliberative democracy. As will be argued, deliberative democracy is the best tool available to public bioethics bodies and experts to manage moral conflicts of public relevance. Empirically, this study will put such normative proposal to the test of a large-scale laboratory experiment devised according to the Deliberative Opinion Polling® methodology. Through this test, the normative proposal will be refined, and the resulting model of a public bioethical expert will be shown to be in line with the dominant interpretation of public bioethics as endowed with a "facilitation role" between the institutions and the public (Black 1998; Dodds and Thomson 2006; Trotter 2006; Moore 2010; 2012).

Ultimately, the volume aspires to contribute to addressing the challenges raised by political questions on bioethical expertise, building a bridge between public deliberation and public bioethics, while discussing and rethinking expertise in public bioethics in light of the normative theories and practical approaches of deliberative democracy.

Outline of the volume

The volume is structured as follows. First, in Chapter 1, I will provide an in-depth theoretical discussion on the issue of bioethical expertise, by means of a comprehensive review of the debate on the topic in moral philosophy and bioethics. The results of the review show that debates on bioethical expertise have focused mainly on three research questions: (i) what are the objections to the intervention of bioethical expertise and/or bioethical experts?; (ii) what are the areas of expertise, if any, covered by bioethical experts?; and (iii), what should be the power attributed to such experts? As the review will show, the "standard argument"

(Vogelstein 2014) emerging in the literature contends that bioethical expertise mainly consists in having argumentative skills (e.g., ability to reason formally and consistently, to avoid errors in one's own argument) and moral knowledge (e.g. knowledge of moral theories and principles of applied ethics). Moreover, this consensus view conceives of bioethical experts as "conceptualizers of moral issues" (procedural role), rather than as "problem solvers" endowed with decisional authority (decision-making role).

Next, in Chapter 2, I will turn the attention to public decision-making models within democratic societies. After outlining the two most relevant of such models, aggregation and deliberation, including their respective limitations as discussed in political philosophy literature, I will argue that deliberation represents the most legitimate decision-making approach for public bioethics bodies and public bioethical experts dealing with moral controversial issues arising in the public arena. In the second part of the chapter, I will show that the connubium between public bioethics (bodies and experts) and deliberation is neither recent nor surprising, if we interpret (public) bioethics as *de facto* bound to deliberative ideals since its inception. These considerations will be helpful in introducing the notion of "deliberative public bioethics", that is, an account of public bioethics as defined by its commitment to "expanded public involvement" and an "emphasis on communication" (Moore 2010; Abelson et al. 2020). As will be discussed, the main role for a deliberative public bioethics is to act as interpreter, articulator, and mediator of public discussions on controversial issues, encouraging also cooperation amongst the different parties. This function, reported in the literature under the expression of "facilitation", plays a key role throughout this volume, notably in relation to an envisioned potential role for bioethical experts as "deliberative facilitators".

Because the concept of facilitation is undertheorized in bioethical literature, the argument in Chapter 3 will draw on political science debates on "intermediation", where facilitation and intermediation appear as largely overlapping concepts. In particular, I extensively discuss the role and functions of the so-called "intermediators of deliberation" (Landwehr 2014) – that is, those figures who act within deliberative-based settings to

moderate small groups discussion. These are well known in the literature also as "moderators" (Edwards 2002; Fulwider 2005; Wright 2006; Pierce et al. 2008; Wright 2009; Farrar et al. 2009; Park 2012) or "facilitators" (Pyser and Figallo 2004; Figallo et al. 2004; Trénel 2009; Gerber 2011; Moore 2012; Levine et al. 2005; Landwehr 2014). As the role fulfilled by moderators in deliberative settings is similar to the one ideally fulfilled by bioethical experts in the context of public decision-making inspired by deliberative ideals, this chapter offers an extensive discussion of the theoretical and empirical literature on deliberative moderators.

Building on the above, the last part of this work, Chapter 4, provides a ground-breaking empirical contribution, by testing the normative model of public bioethical expert developed in line with the account of the literature presented in Chapter 3. This study innovatively combines a survey of a representative sample of the general population with a laboratory experiment based on a random sample of students who *ex-ante* displayed attitudes identical to those of the general population. Findings from the study show that: i) different moderation styles can significantly influence deliberative outcomes; ii) the effects of deliberation are not necessarily immediate, but may be revealed some time after the end of a deliberative session; and iii) participants tend to better appreciate a bioethical expert acting as "passive moderator", namely as someone who acts in order to ensure non-domination and non-interference, thus allowing the creation of basic conditions for equality within the deliberative setting.

Experimental findings provide useful insights for elaborating further considerations on the role of the bioethical expert in the context of public decision-making. In particular, considering this outcome in relation to the current debate over bioethical expertise, it will be shown that in actual practice the "moral expert" (i.e., someone who interferes with decisions by others because of his/her superior expertise) and the less invasive "ethical expert" (i.e., someone who actively fosters the formation of participants' preferences on a specific topic, labelled "Active Moderator" in Chapter 4), both fail to realise deliberative ideals, while a third figure, labelled "Passive Moderator", appears to be more capable of actually achieving deliberative democratic tenets.

1.
PHILOSOPHICAL DEBATES AROUND BIOETHICAL EXPERTISE

1. *Introduction: defining expertise*

In a specialized world, where knowledge has increasingly become a collective enterprise, nobody can master all the fields. This has led to the generation of a myriad of experts, each of whom is specialized in a precise domain or subdomain (Rasmussen 2005). The definition of experts, generally considered, does not seem particularly controversial. An *expert* is someone who possesses a proficiency in a specific domain. This, in turn, has been quite unanimously interpreted as equivalent to the possession of some knowledge and skills in a specific limited professional field. However, the opinion as to whether such a knowledge should be just superior (Steinkamp et al. 2008) or even exclusive (Ericsson et al. 2006) in order to consider its possession as an expertise, varies from author to author. Moreover, having an expertise seems to differ from possessing a *competence*, since the former is a broader concept involving both knowledge and skills, while the latter is a narrower concept just limited to skills (Steinkamp et al. 2008). Starting from the consideration that expertise deals with skills and knowledge, but that these two features characterize expertise in a very different manner, two kinds of expertise have been identified: the *performative* expertise and the *epistemic* expertise (Weinstein 1993). An individual is an expert in the performative sense if the same is able to perform the skills related to the specific domain of expertise in an effective and proper way. By contrast, an individual is an expert in the epistemic sense if the same is able to offer strong justifications for a set of propositions in a specific domain. Hence, the performative expertise deals with the act of doing something

well in a specific domain, whereas the epistemic expertise deals with judgment and the theoretical capacity of properly justifying the positions belonging to their specific area of expertise (Driver 2013). Within this very last account "a claim is an 'expert opinion' if and only if it is offered by an expert, the expert provides a strong justification for it, and the claim is in the domain of the expert's expertise" (Weinstein 1993, p. 58).

Given this picture, it is not surprising that people with training in bioethics are often referred to as "bioethics experts" and/or "bioethical experts" (Littoz-Monnet 2020; Niv 2022). However, the question "who is the bioethical expert?" does not appear so easy to answer. Such a difficulty is arguably ascribed to several reasons, two of which deserve particular attention here. The first one deals with the controversial nature of bioethical knowledge together with its potential consequences, such as lack of widely accepted standards, distrust towards experts, as well as disagreement between them. The second reason has to do with the negative consequences that could follow from the presence and permanence of bioethical experts in our societies in terms of non-experts autonomy, judicial independence and equality. Therefore, if the first set of reasons aims to demolish the concept of bioethical expertise, the second set of reasons tries to show the incompatibilities between the bioethical experts as professionals and the grounding ideals of liberal democracies.

This chapter is structured as follows. First (§2 and §3), the two sets of arguments against bioethical expertise and bioethical experts are presented and properly addressed. Drawing on the above, it is shown to what extent these objections are not definitive and why they leave the door open both to the existence of bioethical expertise and to bioethical experts as legitimate figures in the context of liberal democracies (§2, §3). Then (§4), the currently dominant view of bioethical expertise and the main interpretative accounts of bioethical experts are presented. In the final part (§5), I elaborate on these accounts, tracing a distinction between "ethical experts" and "moral experts" which will open the floor for further discussion in the next chapters.

2. *Objections to bioethical expertise*

2.1 *The lack of consensus argument: disagreement amongst bioethical experts*

One of the most important objections raised towards the idea that a bioethical expertise can actually exist is connected with the factual observation that bioethical experts disagree among themselves about what constitutes a correct behaviour, a good life, the most legitimate solution to ethical dilemmas, etc. (Bambrough 1976; Cross 2016). If the potential candidates for the title of bioethical expert disagree on the constitutive features of their discipline and on its content, how can we decide who the real experts are? This objection has been articulated in different ways. On the one hand, it has been claimed that, even if some layers of disagreement are also present in other disciplines, the disagreement surrounding ethical issues is qualitatively different and/or deeper – some would say "more intractable" (Cowley 2005) – than the one present in non-ethical disciplines. Through the words of Ruth Shalit, people endorsing this view would say that "The surgeon's recommendation rests on an agreed-upon set of facts and criteria […]. The philosopher's recommendation depends on a set of criteria that is not agreed upon, but varies from culture to culture and, more and more, from individual to individual. One man's categorical imperative is another man's heresy" (Shalit 1997, p. 24). On the other hand, other scholars have put forth the idea that agreement between the experts of a discipline has to be considered as the necessary condition for the existence of the discipline itself. However, since (bio)ethics has always been dominated by disagreement amongst those who declare themselves as bioethical experts, bioethical expertise cannot surely exist (Bambrough 1967).

Three counter-objections against "the lack of consensus argument"[1] might be raised. The simplest way to counter this

1 The expressions "lack of consensus argument" and "lack of factual basis argument" have originally appeared in the paper of Steinkamp and colleagues 2008.

objection is to show that disagreement is pervasive to all academic fields, which means that it is a common feature between experts of several disciplines. Moreover, it has been observed that the degree of disagreement often attributed to ethics is exaggerated, and that disagreement within this field could be even less extreme than in other fields[2]. Finally, it could be argued that even if we were unable to debunk the claim that the ethical domain is dominated by perennial disagreement, agreement between experts has never been demonstrated as a precondition for expertise.

2.2 *The lack of standards argument: lack of clear identification standards*

A second objection raised towards the existence of bioethical expertise is that, differently from other professional fields where there are standardized institutional paths for defining and legitimizing those actually belonging to the field, bioethics as a professional domain of knowledge lacks clear and, above all, unique identification standards (Suter 1984).

The fact that there is no unique and institutionalized *cursus honorum* that those aiming at becoming bioethical experts should go through is certainly true[3]. However, on the one hand, this appears partially related to the controversial nature of the epistemological status of bioethical enterprise. Indeed, the presence of different but equally valid answers to the question "What is bioethics?" and, mainly, "What is the purpose bioethics aims to reach? What are the tasks bioethicists are asked to fulfil as professionals?" seems to explain, and even legitimize, the absence of a unique professional

2 Terrance McConnell, for instance, shows that even if supporters of different methods of applied ethics (such as deontologists and utilitarians, but also act utilitarians and rule utilitarians) would surely disagree concerning *the reasons* supporting different moral rules, they would share much more moral rules than the ones non-ethicists would be willing to admit (McConnell 1984, pp. 206-207).

3 Actually, we might argue that this claim is only partially valid. Indeed, even if it is true that bioethicists might have very different backgrounds (philosophy, medicine and law are the most common ones), some commonalities regarding specialised educational paths may be nonetheless traced.

training that should characterize the experts in this field. On the other hand, it could be replied that there is a sort of certification coming from those disciplinary boundaries practically instructed. Indeed, certificates, degrees, masters but, above all, publications on peer-reviewed specialized journals and as well as participation in widely known bioethical conferences, can be considered at least preliminary criteria for distinguishing those who cannot be surely considered as bioethical experts from those who might enter in this category (Archard 2011).

2.3 *The lack of trust argument: lack of trust towards bioethical experts advice*

A third objection raised towards the existence of bioethical expertise can be ground in the lack of trust that non-experts show with respect to bioethical experts' expertise. The supporters of this view claim that bioethical expertise does not exist since, unlike all the other fields where non-experts are prone to follow experts' advice, in the (bio)ethical domain people generally observe the unwillingness of non-experts to follow the advice of bioethical experts. To give an example, patients that are also non-experts in medicine, are usually prone to recognize the expertise of physicians when providing medical advice. This means that very rarely non-experts in medicine would question, for example, the diagnosis, the prognosis or the therapeutic option provided to them by physicians[4]. Differently, suggestions and/or advice concerning bioethical issues provided by bioethical experts do not usually receive a higher consideration just because declared by experts in the field, but could actually appear annoying and even illegitimate. Actually, even if this objection might appear very interesting from a sociological standpoint, it nevertheless does not seem philosophically decisive. Indeed, even if the recognition of expertise provides non-experts with good (even if not sufficient)

4 Actually, the analogy with the medical domain is not altogether fair. As the Stamina and Di Bella' cases (just to name some famous examples) have shown, there is a growing sceptical attitude also towards healthcare professionals.

reasons to follow expert's advice, the mere fact that non-experts do not recognize bioethical experts' expertise cannot be necessarily interpreted as a signal of the latter's lack of expertise (Archard 2011).

2.4 *The lack of factual basis argument: (bio)ethics as a subjective field of knowledge*

All the aforementioned objections are simply possible ways through which the doubts towards the professional stance of bioethicists could be properly engendered. However, there seems to be a deeper reason lying behind all of these doubts, that is, that (bio)ethics, also intuitively, seems *qualitatively* different from non-ethical kinds of expertise. To give an example, to have an expertise in climbing seems easily definable, even if we ourselves are not experts, and different modalities (indoors and outdoors, on natural and manmade structures) and types (rock, ice, and rope) of climbing could be identified. By contrast, the profound and apparently unavoidable disagreement characterizing ethical matters makes the definitive identification of the bioethical expertise a very complex task. The intuitive feeling that the controversies surrounding ethical discussions are of a different kind from the ones characterizing other domains of knowledge (Bagnoli 2006; Besussi 2012), when further analysed, has been explained by pointing out the impossibility of finding an objective ground from which ethical judgments might be unequivocally made (on this point see, for instance, Iltis and Sheehan 2016). Using again the example of climbing, even if a disagreement over how to climb a mountain existed, this would no longer be comparable to the disagreement characterizing the debate over the ethical acceptability of abortion and/or euthanasia. According to the supporters of this view, the qualitative gap between (bio) ethics and non-ethics domains might be ascribed to the different kinds of content they deal with. More specifically, (bio)ethics deals with values and not with facts; and since facts are assumed to be objective, whereas values are considered as subjective, facts might be universally true, while values are dependent upon the specific individual. As a consequence of this line of thought,

ethics (and *a fortiori* bioethics) is not an objective field of knowledge. This, in turn, prevents the existence of a uniform and genuine expertise in the field of (bio)ethics (McConnell 1984; Cowley 2005; Varelius 2008)[5].

This objection has been formulated in many different ways, amongst which two appear here particularly relevant.

The first formulation of this critique should be attributed to McConnell. In one of his pioneering works, by assuming that in order to have an expertise in a specific domain this domain has to be objective, he argues in favour of the definition of ethics as a subjective field of knowledge. In particular, he claims that "a matter is objective if there are correct and incorrect answers to questions arising from it" (McConnell 1984, p. 195). If this general criterion is applied to the ethical domain, it follows that ethics could be considered as an objective kind of domain given that, in cases of disagreement about ethically legitimate options, we were able to say that at least one, among several, is surely wrong (McConnell 1984, p. 196). Hence, (bio)ethics, at least allegedly, cannot be considered as an objective field of knowledge since there is no objective ground able to legitimize the distinction between right and wrong and that, in turn, could grant that, between two opponents, one is surely wrong[6]. A different way of formulating

5 This first observation does not represent an objection to the idea that there might be someone who possesses an expertise in the academic field of bioethics. Differently, this first observation, if valid, would deny that the bioethical expert is someone who is significantly better at formulating moral judgments, that is, at determining what should be done. For a better systematization of this distinction see Lisa M. Rasmussen (2011) and Eric Vogelstein (2014).

6 Actually, McConnell reasoning is not so straightforward. Indeed, he starts setting the aforementioned criterion for objective knowledge, but then he leaves it aside in order to argue in favour of what he defines "a slightly modified version of the no moral expert argument", according to which we should be able to infer the subjective nature of moral knowledge by the fact that there are no such figures as ethical experts. At the very end of the paper he arrives at the conclusion that objectivity in ethics (as well as in any other field) does not depend upon the presence of experts, since their role could be also conventionally established. This concept may be better explained through the analogy of wine: even if whether wine tastes good might be ultimately a subjective matter, there are some shared

this objection has been through the analogy between ethics and science. According to the supporters of this view, since the most exemplary paradigm of objectivity is science, (bio)ethics could be considered as an objective field of knowledge provided that it can take on the characteristics of scientific disciplines. However, since science deals with factual matters while ethics deals with personal perspectives (Shalit 1997; Cowley 2005), ethics cannot be considered as an objective discipline at all.

Several counter-objections may be advanced to the "lack of factual basis argument" in both its formulations. First of all, the very notion of objectivity is far from being unproblematic. Indeed, the ongoing metaethical debate addresses the problem concerning the existence of moral facts. Moreover, this issue does not pertain only to ethics, as the notion of objectivity is problematic even in science (see, for example, Daston and Galison 2007).

However, let us assume for the sake of the argument that it is possible to argue that some disciplines deal with "objective facts". Even in this case, three counter-objections may be raised. First of all, it is not necessarily so that objectivity in ethics should be of the same kind as in science. Indeed, as some scholars have argued, ethics should not be compared to science, since the two differ significantly: if the latter deals with factual evidence, the former deals with justificatory reasons (Yoder 1998). Secondly, even if we assumed that this answer fails to reply to the criticism, since "the reasons in question are supposed to be just as objective as the facts they are meant to replace" (Cowley 2005, p. 275), this critique is not altogether fair. Indeed, there are positions within the debate, such as metaethical realism and metaethical naturalism that would claim that moral facts actually exist (Boyd 1988; Sturgeon 2002). Finally, even if we agreed that science is the exemplary case of objectivity, and therefore that ethical judgments should be comparable to factual evidence in order to be objective, it may be nevertheless shown that science is also value-laden (Longino 1990; Douglas 2000).

Finally, the two formulations of this objection lie on a very robust assumption, which is not further justified: that expertise

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criteria to establish whether wine is actually good (McConnell 1984, pp. 214-215).

requires objectivity (McConnell 1984). However, if we accepted McConnell's assumption, we should be forced to deny that a lot of professionals that we consider as experts are actually as such. As a matter of fact, we usually recognize the possibility of expertise also in areas where it seems we do not have objective knowledge[7].

3. *Objections to bioethical experts*

3.1 *The no solutions-based argument: lack of decisive and unequivocal solutions to bioethical dilemmas*

One of the main objections to the idea that some professionals in (bio)ethical disciplines exist is rooted in the observation that bioethical experts, even if labelled as such, are not able (or, at least, no more than laypeople) to provide straightforward and unequivocal solutions to moral dilemmas (McConnell 1984, p. 201). The specific conception of expert endorsed in this context clearly refers to experts as "problem solvers". Accordingly, it could be argued that experts are those who are able to solve problems arising in their specific fields of competence. In other words, experts should be able to provide solutions that non-experts would not reach by themselves. Moreover, these solutions should be timely and unequivocal. Hence, since bioethicists (and, generally speaking, ethicists) are neither known for providing useful suggestions concerning ethical matters nor able to solve ethical dilemmas once and for all, they should not therefore be considered bioethical experts.

This critique is easy to debunk. First of all, it may be claimed that the definition of expertise here implicitly endorsed – i.e., experts are those who solve problems present in their domains – is neither a formal requisite nor a shared and widely accepted criterion for the attribution of expertise. Indeed, as we have already seen, experts are usually defined by the possession of

7 For instance, we are willing to recognize that there are such professional figures as history of art experts and art critics even if an objective definition of "beauty" as well as of "masterpiece" is missing.

superior and/or exclusive knowledge in a specific domain that allows them either to better justify judgments within their discipline (i.e., epistemic expertise), or to perform some skills within their domain of competence (i.e., performative expertise). It could be argued that those who criticize the attribution of expertise to bioethicists do so on the basis of a specific interpretation of performative expertise: in this case amongst the skills the bioethicist should possess, problem-solving occupies a privileged position. However, even if interpreted in such a way, the answer does not appear satisfactory enough, because it is not able to explain why problem-solving should be the *conditio sine qua non* for the attribution of expertise, and not just one among other required skills.

A second way to counter this objection is to say that problem-solving goes far beyond the tasks of bioethical experts, since this activity presupposes not just the knowledge of moral theories and principles that should be applied to the specific case in order to solve it, but also the knowledge of the specific non-moral facts that appear nonetheless fundamental for the overall consideration of the dilemma to be faced. And, since the knowledge of what we might call 'moral facts' could be legitimately considered part of bioethical expert's expertise, the same does not seem to be argued for "non-moral facts" (McConnell 1984, pp. 202-203).

A third way to oppose this objection is to preliminarily accept the problem-solving criterion and to show how paradoxical – or at least counterintuitive – its consequences would be. The conclusion of this reasoning is the rejection of the criterion itself. More in details, if we accepted as a criterion for the expertise the capacity to provide unequivocal and straightforward solutions to problems arising in the expert field of knowledge, we would be obliged to acknowledge that almost no one is an expert. Consider, for example, the field of medicine. If problem-solving is a valid requirement, physicians should be considered as experts only if they prove to be able to solve patients' medical problems in a definitive manner. However, it happens sometimes that they are in doubt as to what the nature of the patient's medical problem is and, most of the time, even if at the very end they solve the problem, this activity could require time and several attempts. Nevertheless,

very few people would infer from the previous reasoning that physicians are not experts in medicine (McConnell 1984, p. 203).

3.2 *The knowledge-shared argument: shared content between experts and non-experts*

Another very important objection raised concerning bioethicists as experts of ethical matters is what I define here as "knowledge-shared argument", according to which bioethicists are not experts, since expertise means exclusive possession of a knowledge, and knowledge possessed by bioethicists is not exclusive at all. This objection has been formulated in many different ways, but two appear particularly noteworthy: "the argument from common rules" and "the argument from common sense morality"[8].

The argument from common rules claims that if the bioethicists' expert knowledge lies in the knowledge of moral principles and rules, this knowledge is surely in common with that of non-experts. Those who defend this view claim, for example, that the imperatives of not killing, not stealing and not torturing, even if known by bioethicists, are not exclusively known by them. Indeed, most ordinary people, if questioned, would defend the same rules:

> "Thus, for the most part, philosophers do not want to advocate rules and principles that deviate sharply from the views of ordinary people. It is clear that moral philosophers, qua moral philosophers, are not experts concerning factual knowledge […]. It now seems, though, that they are not experts regarding moral rules and principles either. And, if they do not have expertise regarding these, it is implausible that they are moral experts (McConnell 1984, p. 204)".

The reply to this objection lies in the distinction between the *content* and the *justification* of bioethical knowledge. The idea is that what determines the exclusiveness of ethical knowledge is not the content of such knowledge, but the way in which this

8 The "argument from common rules" has been presented in other terms by Giles R. Scoefield and colleagues (1993), whereas the "argument from common sense morality" has been presented for the first time by David Archard (2011), but defined in these terms by Vogelstein (2014).

knowledge is possessed and justified. And, if the content of ethical knowledge (such as moral rules) might be easily identified both by experts and non-experts, the way in which this content (the moral rules) is justified, is by no means something in which experts surely surpass non-experts. In other words, bioethicists can justify their beliefs in a way that common people cannot[9]. This is what legitimises their professional stance as bioethical experts (McConnell 1984).

The argument from common sense morality (Archard 2011) partially differs from the argument from common rules, and it is probably the most common and recent defence of the knowledge-shared argument. Since expertise is an exclusionary and restricted concept, and both philosophers *qua* bioethical experts and non-experts build their reasonings upon common sense morality, we cannot ascribe a specific expertise to philosophers *qua* bioethical experts that non-experts would not possess. In other words, moral philosophers are not (bio)ethical experts because they do not possess a particular knowledge, but a knowledge that is possessed by all people (Archard 2011). Three main counter-objections have been provided as a reply to the argument from common sense morality. First of all, John-Stewart Gordon has pointed out that Archard's argument is bound to the acceptance of a premise, without which the entire reasoning falls down: the foundation of moral theory over common sense morality (Gordon 2011). Moreover, as Vogelstein has shown, Archard confused equal access to moral truth with equal liability to it. Finally, even if we accepted that ethical theory is nothing but the systematization of common sense morality, and that bioethical expertise in a strict sense were limited to the clarification of common sense morality, it would not follow that such a clarification and systematization will not prove to be useful (Vogelstein 2014), thus attributing to bioethical experts not so much skills of discovery, but rather skills

9 Put in this way, this claim leads to the idea that there is a kind of justification that only bioethicists possess and are able to use. Obviously, this is not the case, since bioethicists, in order to justify their positions, use the tools of formal and informal argumentation (not self-developed tools).

for collecting and systematizing (which, in turn, could have some discovery potential).

Supporters of these two arguments aimed at showing the nonexistence of bioethical experts, highlighting either the incapacity of bioethicists to provide straightforward and unique solutions to moral dilemmas, or the shared nature of expert knowledge, which would prevent them from defining themselves as experts in ethical matters. The two following arguments, rather than aiming at showing the nonexistence of bioethical experts, try to show their illegitimacy. In other words, the two following arguments do not deny that figures like bioethical experts could actually exist, but try to show why their existence as professional figures should be inhibited rather than promoted.

3.3 *The slippery slope argument: (bioethical) experts' presence inhibits non-experts judgmental capacities*

The third argument against bioethical experts is what I define here as "the slippery slope argument". As the title itself suggests, this argument aims at showing the slippery slope we might fall down if we promote the flourishing of bioethical experts in our societies. In particular, such an argument claims that relying too much on bioethical experts, as advisors for the solution of moral dilemmas, will prompt the transformation of human agents into moral cripples (McConnell 1984). Indeed, if we get used to relying on experts for every kind of decision concerning moral dimensions, we would become unable to solve new ethical problems by ourselves, eventually giving up our own autonomy. The idea lying behind this objection is that since ethical expertise is intrinsically different from other kinds of expertise, we cannot, as we do in other cases, relate to experts for the solutions of problems arising in this domain. If, for example, we should completely rely on a physician for the treatment of an illness, the same cannot be said when the problem arises in an ethical context, since we are all required, even if at different levels, to possess some ethical knowledge (McConnell 1984).

Replying to this objection requires showing the limitations of slippery slope arguments in general, and applying these limitations to this specific case. As it has been repeatedly shown, slippery

slope arguments are not solid arguments, since their validity cannot be analytically inferred from their premise, but it relies on future projections whose validity can only be verified in the future. In other words, it could be true that, by relying on experts, common people might in the long run become incapable of making ethical judgments (even the simplest ones) on their own, but this statement cannot be verified in the present. This projection will be proved to be true if and only if the situation described here can be confirmed in the future. Moreover, it seems plausible to claim that the consequences suggested by this argument can only occur in the case in which agents rely almost totally on bioethical experts (McConnell 1984).

3.4 *The inequality-based argument: (bioethical) experts within democracies: an oxymoron?*

The last and more relevant obstacle to the identification and definition of bioethical experts is that such figures appear in ideological conflict with "the democratic turn" of Western contemporary societies, thus obliging us to profoundly rethink the professional role of the former. According to this explanation, the issue of bioethical expertise, concretely expressed through the presence of experts, appears particularly problematic as it can be considered a specific case of a broader problem: the paradoxical relationship between expertise and democracy. Why is there an incompatibility between expertise and democracy? And why is this incompatibility accentuated when the expertise in question is of a (bio)ethical kind? The answer to this question might be easily provided with the following analogy: why should we allow constitutional courts to decide on the proper interpretation of the constitution, rather than parliaments? The argument for the former is that this is a legal matter that requires a technical competence that members of parliament do not have. Looking beyond this analogy, we could similarly claim that the democratic ideal requiring that any decision influencing the life of a person is taken also by that person, clashes with the exclusiveness inherent in the concept of expertise, and, above all, with the decisional power attributed to it. The inequality-based argument is hence grounded on the

incompatibility between expertise and the democratic principle of equality (Scoefield et al. 1993; Turner 2001). Understood in this way, expertise turns out to be a problem for democracy since the former "is treated as a kind of possession which privileges its possessors with powers", thus appearing as "a kind of violation of the conditions of rough equality presupposed by democratic accountability" (Turner 2001, p. 123).

A different and more problematic way of interpreting the relationship between expertise and democracy as an oxymoron arises within the domain of normative political theory, once expertise is defined not in terms of superior knowledge, but of different viewpoint. This variant of the inequality-based argument will be defined here as "the state-neutrality argument". If we think of knowledge as a quantity and, therefore, of expertise as a higher quantity of knowledge to which more power is directly connected, we are in front of the already mentioned inequality-based argument. As it will be properly shown in the next sections, this objection can be circumvented either by letting non experts becoming experts, increasing their knowledge through education – the famous and traditional aim of scientists known as "public understanding" (Durant et al. 1989; Ziman 1991; Bonney et al. 2016) – or by separating the two components of the expertise ideal – knowledge and power –, and by arguing that there could be a kind of expertise that, despite requiring superior knowledge, does not provide its possessors with superior power. Differently, if we interpret expertise according to "the state-neutrality argument", things start getting complicated. Indeed, if possessing an expertise means having a different viewpoint with respect to that of non-experts, expertise surely conflicts with the ideal of neutrality generally ascribed to the liberal state (De Marneffe 1990; Waldron 1993; Gaus 2003; Patten 2012; Kymlicka 2017). According to this argument, liberal states should exhibit an impartial behaviour with respect to different standpoints and opinions in order to ensure a genuine, fair and open discussion. Hence, since the very concept of expertise assumes that some standpoints count more, expertise is *per se* incompatible with a liberal framework (Turner 2001, p. 124). Therefore, both the inequality-based and the state-neutrality arguments criticize the concept of expertise (as well as the power

which follows directly from it) for its inevitable inconsistency with the tenets of liberal democracies, whether equality between citizens or state impartiality is emphasized. This already problematic relationship appears further worsened if we refer the concept of expertise to the (bio)ethical enterprise, where, as we have seen earlier, anyone' standpoint seems even more equally legitimate and, therefore, any interference into non-experts' choices appears even less justifiable. To conclude, for many scholars the very idea of an expertise in (bio)ethics violates a central normative intuition of our liberal democracies, namely that on ethical matters individuals should ultimately decide on their own.

This objection, in both its formulations, appears rather problematic to debunk. Indeed, the "binomial" knowledge-power on the one hand, and ethical knowledge-decisional power on the other hand, can be considered as reasonable observations, worthy of serious consideration. However, what seems to be arguable is that there could still be some legitimate space for bioethical experts within societies as long as these relationships characterizing the concept of expertise, as previously formulated, are dissolved. As this reasoning is central to this volume, the next chapters will focus on and further conceptualise this issue.

4. *The theoretical background*

4.1 *Preamble: experts vs. expertise and ethics vs. bioethics*

What has been said so far is that the growth of knowledge has made a sort of distinction of labour ever more pressing. Such a phenomenon has been put by many at the origin of the creation and proliferation of experts, who are generally defined as those who possess some knowledge and skills in a specific area. This process, as a matter of fact, clearly involves very different disciplines, and of course (bio)ethics too. However, when properly analysed, both the presence of a bioethical expertise and bioethical experts meets some opposition, on the one hand because of the particular nature of bioethical knowledge and, on the other hand, for the

alleged oxymoronic relationship between experts in bioethics and democratic decision-making.

As just shown, neither the objections towards the idea of bioethical expertise, nor those against the existence of bioethical experts have proven to be decisive. This leaves the space open to some possible interpretations of the concept of bioethical expertise and of the role/s of bioethical experts.

However, further investigating these concepts seems to require some preliminary terminological disambiguation. Firstly, the debate on bioethical expertise appears to be confusingly dominated by the unexplained and interchangeable use of the expressions "bioethical expertise" and "bioethical experts". One might argue that these two expressions just refer to two different lines of investigation characterizing the current literature on this topic, one interested in the content of expertise, while the second in the role of experts. However, this very simple explanation does not seem to be valid, not just because the literature does not present a clear distinction between these two levels (which mostly overlap even within the same contribution), but also because the connection between the content of bioethical expertise and the role of bioethical experts is definitively unclear. A connection emerging within the debate is that the disagreement surrounding the professional stance of bioethical experts seems partially bound to the deeper disagreement characterizing the content of bioethical expertise. And, what largely happens in the literature, is that the two levels are so radically overlapped, that some authors, starting from the controversial nature of bioethical knowledge, infer the illegitimacy of bioethical experts; whereas some others, from the potential utility, or even the by now inevitable presence, of bioethical experts within our societies, struggle to justify in any possible way the existence of an uncontroversial bioethical knowledge.

Secondly, another area of confusion concerns the interchangeably use of expertise/experts in ethics, and expertise/experts in bioethics. As already pointed out in previous sections, even if this distinction could be primarily considered as the proof of the presence of the different disciplinary levels of analysis, the real

explanation actually seems to be related to the controversial epistemological status of bioethics as a discipline and to its relationship with ethical theory and moral philosophy in general.

4.2 *What is bioethical expertise? The standard argument*

In a relevant contribution appeared in *Bioethics*, Vogelstein defines the set of knowledge and skills quite unanimously[10] attributed to bioethical experts by supporters of the bioethical expertise ideal as "the standard argument" (Vogelstein 2014). The standard argument is the dominant theory of bioethical expertise since it is grounded in the dominant explanation of bioethics as applied ethics. According to this argument, originally formulated by Peter Singer (Singer 1972; 1982; 1988) and then variously reinterpreted by several scholars, we might consider practical ethicists (and, among them, bioethicists) as possessing a degree of expertise by dint of their competence in moral reasoning. The standard argument claims that bioethical experts possess both skills and knowledge in moral subjects. Amongst the skills held by bioethicists we might find both some *general* critical-thinking skills and some more *specific* critical thinking skills applied to the ethical domain. As to the former, we may find the ability to reason formally and consistently, to avoid errors in one's own argument, and to detect fallacies when they occur in others' arguments. As to the latter, we may find abilities dealing with the application of these general skills to the moral context: e.g., how to apply

10 As explicitly stated in the text, the standard argument (in its different formulations) can be considered as the dominant but not the unique view regarding bioethical expertise. Two additional "theories" of ethical expertise may be also found in the literature: the phenomenological account developed by Hubert L. Dreyfus & Stuart E. Dreyfus (1990) according to which ethical expertise refers to a set of intuitive moral competences, and the Habermasian-based account reinterpreted by David J. Casarett and colleagues in which the ability to reach consensus in face of deep disagreement is considered as the content of clinical ethics expertise (1998). Against Dreyfus and Dreyfus account see, for instance, Wesley Buckwalter 2016. On the importance of training moral intuitions in relation to the issue of bioethical expertise see, for instance, Albert Musschenga (2009).

argumentative tools to moral controversial cases. Concerning the knowledge bioethicists are supposed to have, we might find the understanding of both moral concepts – theories and principles of applied ethics – and moral arguments – e.g., the most important reasons in favour of and against to the specific positions related to the traditional topics of applied ethics (Singer 1972, 1982 and 1988; Szabados 1978; McConnell 1984; Ackerman 1987; Brink 1989; Moreno 1991a and 1991b; Weinstein 1994; Crosthwaite 1995; Nussbaum 2002; Sharvy 2007; Varelius 2008; Agich 2009). To summarize, according to the standard argument, there is an expertise in bioethics since there is some knowledge that an expert in the field should possess (e.g., moral theories, accounts, traditions, principles, etc.), but also because there are some skills (e.g., argumentation) enabling the application of this knowledge to concrete situations requiring analysis and solutions. Actually, though it may appear as a rather consistent account, the standard argument is usually spelled out in very different forms. Indeed, although argumentation plays a central role, different interpretations of the concept of justification lead to slightly different versions of the standard argument. Jan Crosthwaite, for instance, defines an argument as justified as long as it is supported by reasons, without requiring that these reasons are infallible (Crosthwaite 1995). Scot D. Yoder argues that a position is justified if the reasons supporting it are mutually consistent from a logical standpoint. Therefore, according to Yoder, what matters is not the initial position endorsed by the agent, but the coherence between the agent's moral judgments (Yoder 1998). Finally, Bruce D. Weinstein formulates what can be considered the most demanding version of the standard argument. He considers ethical expertise as a form of epistemic expertise, and in particular, as its normative subdomain. Being a kind of epistemic expertise, bioethical expertise deals with the capacity of providing justifications within a specific domain rather than with the practical ability of performing some tasks in a proper way. Moreover, dealing with the normative level of investigation, it also deals with the ability to solve dilemmas by providing strong recommendations. Accordingly, in his view ethical expertise is the ability to provide strong justifications for a claim in the ethical domain (Weinstein 1994). Although he denies

that his account requires the existence of moral objectivity, his conception of strong justification may nonetheless lead to such interpretation[11].

4.3 *Who are bioethical experts?*

4.3.1 *Conceptualizers vs. Problem solvers*

The standard argument is the most widely accepted answer to a very specific question: where does the expertise of bioethical experts, if any, lie? Once this question is answered, another question needs to be asked: what follows from this expertise in terms of power and roles granted to bioethical experts? This means asking where the threshold to experts' power should be set, once their field of expertise has been clearly defined. The best way to answer this question may be found, in my view, in an argument proposed by Norbert Steinkamp, Bert Gordijn and Henk ten Have (2008)[12]. Their claim is that those who have tackled the issue of bioethical expertise may be said to endorse one of the two following theories: "the narrow theory of bioethical expertise" or the "broad theory of bioethical expertise".

According to "the narrow theory of bioethical expertise", bioethical experts should be considered conceptualizers of moral issues. Indeed, because of their ability in formal and argumentative reasoning and knowledge in ethical theories, bioethicists might be more appropriately engaged in a conceptualizing, rather than problem-solving, activity. This, in turn, means defining the bioethical expert mainly as a moral thinker, whose primary task is to define the nature of the problems to be addressed, and to take care of the formal analysis of the moral problems and arguments, while remaining detached from the potential practical implementations

11 See, for example, Yoder 1998.

12 Actually, by "bioethical expert" the authors explicitly refer to the clinical ethicists, leaving aside the debate over the role of bioethicists in the public arena as well as in other domains. However, since in their distinction of the two "theories" of bioethical expertise, they take into consideration not just the debate over the role of bioethicist in the clinical domain, but the entire debate over the topic of bioethical expertise, I consider this distinction as applicable also to this broader domain.

these problems may lead to. According to Steinkamp and colleagues, there is a twofold justification supporting the narrow theory of bioethical expertise.

First, as some philosophers have suggested, most moral disputes would be easily solved (and even, in some cases, avoided) if the parties agreed on the meaning of the concepts they are referring to (Beauchamp 1982). The idea lying behind this argument is that moral dilemmas, rather than being only the result of conflicting and mutually incompatible values, draw also on semantic and interpretative reasons. Accordingly, disambiguating (potentially) ambiguous terms is then the preliminary strategy towards the resolution of moral dilemmas (Beauchamp 1982)[13]. Moreover, prior to disambiguation and problem-solving, there is a preliminary – often neglected – crucial step: the identification of what is/are the main problem/s to be addressed and potentially solved. As some scholars have righly pointed out, concept definition and problem-solving are just secondary tasks of the bioethical enterprise, since sometimes the problem lies in the lack of a clear definition of what are the problems that actually require a solution (Caplan 1989).

Opposed to the narrow theory of bioethical expertise, "the broad theory of bioethical expertise" states that, in virtue of their more competent and informed justificatory abilities, bioethicists should be assigned a problem-solving role in cases of moral dilemmas and disagreements. There are two interpretations, more or less radical, of this theory. According to the less radical version of this theory, the justificatory abilities of the bioethicists are superior to those of lay people since the former are usually more refined, because they exercise them more frequently. However, this does not mean that experts' judgments are infallible, but just that they are more likely to be less fallible than those of non experts (Crosthwaite 1995). The more radical version of this argument argues instead that bioethical expertise is nothing but the normative reflection that primarily includes the capacity of providing strong justifications

13 The same consideration has been advanced by some deliberative democrats, who referred to this activity as one of the core features of deliberative approaches, and, in the meantime one of the reasons why of deliberative approaches should be preferred to aggregative ones (see Chapter 2).

for a claim in a specific domain. Because of its emphasis on the strength of the justifications rather than on the consistency between the premises and the following consequences, this more radical version of the broad theory of bioethical expertise cannot but assume moral objectivity. According to the supporters of this last account, bioethical expertise is hence possible if and only if there are objective moral truths, acting as guarantors of the distinction between justified and unjustified arguments (Weinstein 1994).

4.3.2 *Philosophers vs. non-philosophers? Who is more competent as bioethical expert?*

Another controversial question surrounding the debate over bioethical expertise is whether philosophers (and, particularly, moral philosophers) represent the best qualified people to be moral experts, or whether some other professionals might be better equipped to fulfil this task (Brassington 2013; Cross 2016; Bach 2021). Three main answers may be found in the literature as replies to this question[14]. A first answer is provided by those who completely reject the idea that bioethical experts should be professionals with a philosophical background, the so-called "argument from common sense morality" (already shown in §3.2), originally formulated by Archard (2011). An opposite answer has been provided by those who claim that, considering skills and knowledge reported in the standard argument, there is no doubt that philosophers by training are the best equipped to be bioethical experts (Vogelstein 2014). A final answer comes from those supporting an in-between position who argue that, although there are no specific competences that philosophers, *qua* bioethical experts, possess that non philosophers cannot acquire, philosophers can fulfil this role better because of contingent reasons, for instance the fact that philosophers receive general training in understanding formal reasoning and a specific expertise in moral theories, arguments, and concepts (Singer 1972;1982; 1988).

14 Actually, a more recent contribution has been provided by Yarden Niv (2022) who contend that we should not ask whether philosophers are moral experts but rather under which conditions they successfully execute their expertise.

5. *Conclusion*

This chapter aimed to provide the reader with a taxonomy of the complex – and not always consistent – philosophical debate over bioethical expertise. As it has been shown in the first part of this chapter, there are several objections that often accompany both the existence of bioethical expertise and the legitimacy of bioethical experts. However, what could be said after having scrutinised the debate is that objections raised in the literature are not definitive. In the second part of the chapter, I argued that philosophical discussions over bioethical expertise deal with three families of questions: (i) where does the expertise of bioethical experts, if any, lye?; (ii) what should be the role granted to bioethical experts?; (iii) are philosophers the better equipped to act as professional bioethical experts?.

As to the first question – "where does the expertise of bioethical experts, if any, lie?" – there seem to be some knowledge and skills quite unanimously considered as the content of bioethical expertise, the so-defined "standard argument".

As to the third question – "who are the better equipped to act as bioethical experts?" – I showed that different answers are present in the literature. However, even in this case, most scholars tend to endorse Singer's view, according to which philosophers are the are best equipped, even for contingent reasons, to be appointed as bioethical experts.

As to the second question – "what should be the role granted to bioethical experts?" – I showed that there is no clear agreement in the literature, the answers spanning from considering them as problem-analysers to problem-solvers. However, identifying a trend in the literature, I would suggest that bioethical experts are most likely to be considered as "ethical experts", while less likely as "moral experts". Through this distinction, I suggest that bioethical experts do possess some specific knowledge and skills (those already identified by the standard argument) which enables them to act as *conceptualisers of moral issues*, but that this set of competences does not legitimate them, in the majority of circumstances, to decide *in place of others*, indicating and prescribing what is the right solution in a specific situation.

However, as it will be shown in the course of the volume, although bioethical experts are not entitled to prescribe which direction to follow in case of moral dilemmas, they can, nonetheless, help others to do this, *facilitating* their decisional process.

2.
DELIBERATIVE PUBLIC BIOETHICS
From Aggregative to Deliberative Models in Public Decision-Making

1. *Introduction: bioethical experts in the public arena*

In the previous chapter I have shown that the issue of bioethical expertise, far from being univocally discussed, is instead characterized by overlapping research questions which make the investigation of this topic potentially bound to a plurality of research lines. Since this work primarily pertains to the role of bioethical experts within the public arena, the next chapters will narrow the focus of the analysis to the "*political questions on bioethical expertise"*, as outlined and discussed in the Introduction. These questions examine the role performed by bioethical experts in public decision-making settings, in the context of liberal democratic societies and their normative principles. Accordingly, my final aim is to investigate whether expert power should be restricted or increased in line with these principles.

This chapter will outline and discuss the conditions that can be said to underlie legitimate public decision-making processes in a democratic society, in relation to ethical public controversies. In turn, this will lay the basis for analysing the role of the public bioethical expert, starting from considerations related to principles and values this expert is expected to preserve and promote within a liberal democratic society. Such an approach requires bridging distinct (yet interrelated) disciplines: political philosophy and political science on the one side, and public bioethics on the other.

Premised on the above, the chapter is structured as follows. First, I briefly introduce the aggregative model of public decision-making, alongside with some of the most well-known critiques traditionally levelled at it. Next, I outline the deliberative model of public decision-making, while also discussing specific

limitations of this model. This is followed by an extensive consideration of the theoretical proposal of a *deliberative* public bioethics – as opposed to traditional public bioethics. I introduce and address the concept of "minipublics" as potentially effective when it comes to institutionalising deliberative democratic ideals and approaches in public settings entailing the presence of bioethical experts. Finally, I describe and discuss additional challenges linked to the introduction of deliberative public bioethics bodies.

2. *Public decision-making: aggregation versus deliberation*

2.1 *Aggregative decision-making: models and weaknesses*

Political theorists of different schools of thought recognize at least two alternative models of public decision-making in case of mutually-binding decisions in the context of deep disagreement: the *aggregative model* of public decision-making and the *deliberative model* of public decision-making (Swank 2003; Avritzer 2012; Pacuit 2012; Bächtiger et al. 2018).

The aggregative model of public decision-making has traditionally appeared in two different variants. According to the first one, in order to take a decision in a context of moral disagreement, we should aggregate (i.e., add up) all the expressed preferences of all the individuals involved in the decision, after which we proceed with majority voting in order to arrive at the final decision. According to the second variant, the final decision is the result of a process of public bargaining and negotiation amongst those who take part in the decisional process: the final decision results from the compromise amongst participants' initial expressed preferences (Austen-Smith and Banks 1996; Peter 2009; Saunders 2010; Perote-Peña and Piggins 2015; Estlund and Landemore 2018).

Regardless of their differences, these two aggregative models of public decision-making both come with limitations when benchmarked against ideal conditions of democratic decision-making.

First, aggregative models are characterized by the fact that the preferences of those who take part in the decision-making process are given *a priori*, whereby the public arena emerges merely as the – metaphorical or non-metaphorical – space in which these preferences are expressed and, possibly, implemented. In this view, participants' preferences develop (long) before their exposure to the public debate. Accordingly, the so-called public arena is no more than the place where citizens express their preferences with the unique aim of seeing them implemented.

Contrary to this view (as endorsed by proponents of aggregative models), it may be argued, at least with respect to some citizens (e.g., experts on the topic under debate, or particularly reflective individuals) or limited to specific topics (e.g., widely-discussed topics of public discourse), that preferences expressed in the public arena are not the result of uncritical thinking; instead, they are the outcome of a long-term reflexive process, which may also be informed by exchanges carried out in a variety of formal or informal settings (e.g., discussions with friends and colleagues, within the family, at school, in academic contexts, etc.). This does not seem to be universally applicable, however. There will always be circumstances in which citizens do not possess critical, robust, or even consistent preferences on the topic under debate prior to its consideration as an issue of public concern. As such, and unlike projections based on aggregative approaches, preferences may also be developed at the time when citizens are asked to express them.

Secondly, aggregative models do not consider the process that underpins the formation of individual preferences. Public decision-making, in order to be democratic, cannot avoid appealing to citizens' preferences. At the same time, mere aggregation is not a method capable of enabling individuals to discern between *"considered preferences"* (Kim et al. 2009) and preferences they would no longer endorse upon considered judgments. As John Dewey presented this issue, "Majority rule is as foolish as its critics charge it with being. But it is never *merely* majority rule" (Dewey 1927, pp. 207-208 – *italics added*). The reason for this, in his view, is that the "counting of heads compels prior recourse to methods of *discussion, consultation and persuasion*" (Dewey

1927, pp. 207-208 – *italics added*). Therefore, if we assume that the democratic component of the decision-making process does not merely rest in the formal requirement of allowing individuals to express their preferences, but also in the "thick" requirement of enabling individuals to express their considered preferences, then the remedy is not just to refine and improve already existing methods of aggregative decision-making, but also to look for alternative *methods*, better suited to this aim (Dewey 1927; Knight and Johnson 1994).

Arguments against aggregative forms of decision-making have also been raised by supporters of Social Choice Theory, which was pioneered in the 18th century by Nicolas de Condorcet and Jean-Charles de Borda, after which it gained ground in the 20th century with the work of Kenneth Arrow, Amartya Sen, and Duncan Black. Social Choice Theory can be defined as the study of collective decision-making processes and procedures; it investigates the way through which individual inputs of various kinds (e.g., preferences and votes) can be aggregated in collective outputs (e.g., collective decisions) (List 2013).

Within the Social Choice Theory literature, both "Arrow's impossibility theorem" and "Condorcet's paradox" show the weaknesses of aggregative forms of decision-making, by debunking the system of preferences' aggregation, and highlighting limitations of majority voting, respectively. In his *Social Choice and Individual Values* (1951), Arrow proved that once we establish a set of basic criteria or axioms – defined by Arrow as "social welfare functions"[1] – aimed at preventing a decision-making process from being arbitrary, we surprisingly find that there exists no method for aggregating the preferences able to fulfil these criteria. This is why no aggregative method, it seems, will allow one to move away from the slippery slope of arbitrariness. An example of a collective decision-making procedure that fails to satisfy all the requirements for non-arbitrariness, according to

1 The social welfare functions individuated by Arrow are the following: i) unrestricted domain (or universality); ii) non-dictatorship; iii) independence of irrelevant alternatives; iv) positive association of social and individual values (or monotonicity); v) non-imposition (Arrow 1951).

Arrow, is majority voting. The latter was precisely the subject of the analysis of Condorcet's masterpiece: *Essay on the Application of the Analysis to the Probability of Majority Decisions* (1785). Through analysis of the voting system based on a majoritarian rule, he formulated the famous paradox according to which the aggregation of preferences through majority voting can lead to irrational outcomes, even when individual preferences are expressed rationally[2].

Consequently, in addition to the potential discrepancy between citizens' originally expressed preferences and considered preferences, which as such features as a fundamental weakness of aggregative-based models of decision-making, Condorcet and Arrow show that public decision-making cannot be based only on aggregation: the method of aggregation in general, and majority voting in particular, does not result in reliable measurements of citizens' preferences.

In addition to the abovementioned *exogenous* reasons, the conclusion according to which aggregation presents inherent limitations can be reached also through another strategy, that is, by appealing to the following *endogenous* reasons. First, it might be argued that aggregative models of decision-making are less legitimate than competing models, or, symmetrically, that there are other forms of decision-making models more legitimate than aggregation. Moreover, it may be shown that the account of legitimacy on which aggregative models are based – consistency between social outcomes and popular will – is met better by other

2 What rational and irrational mean in this context may be clarified by invoking the category of *transitivity*. Reinterpreted through the lens of transitivity, Condorcet's paradox shows that even if each voter's preferences ordering is transitive, the majority ordering may not be transitive (Pacuit 2012). The most common way of presenting this paradox is as follows: there are three voters; the first one prefers alternative *x* to *y* and *z*; the second one prefers alternative *y* to *z* and *x*; and the third voter prefers alternative *z* to *x* and *y*; so there are majorities for *x* and against *y*, for *y* and against *z*, and for *z* against *x*, which clearly violates a principle of transitivity (List 2013). The lesson that can be drawn from Condorcet, then, is that majority rule is at once a plausible method for collective decision-making and yet subject to some surprising problems (List 2013).

models of decision-making. As deliberation may be considered to be the most important rival theory of aggregation, below I present and discuss both these strategies in the context of a broader discussion on deliberative-based models of decision-making. In what follows, I address the difference between deliberative and aggregative models of decision-making. It will be shown to what extent deliberation is a more legitimate model of public decision-making than aggregation, as well as why and how the account of legitimacy endorsed by supporters of aggregation is better realised within a deliberative-based view.

2.2 *Beyond aggregation: deliberative models of decision-making*

Unlike aggregative models, deliberative models of public decision-making consider a decision as legitimate when it is the result of a process of public deliberation. Although the meaning of "deliberation" cannot be bound to a single theory[3], in the context of this work I adopt the definition developed within the so-called theory of deliberative democracy[4], and, in particular, its elaboration by Amy Gutmann and Dennis Thompson (Gutmann and Thompson 1996; 2004)[5]. They present their most useful

3 As reported by Simone Chambers (2003), there has been a proliferation of deliberative democratic theories in the past two to three decades. For a recent overview on the issue see Antonio Floridia (2018).

4 In the context of this work, it is relevant to recall that the term "deliberative democracy" was originally coined by Joseph Besette (1979; 1982; 1994).

5 Although this work explicitly draws from Gutmann and Thompson account of deliberative democracy for the reasons outlined in the text, alternative and not less influential accounts of deliberative democracy may be found in the literature. In particular, competing notable accounts have been out forth by Jurgen Habermas (1989; 1990; 1994; 1996), John Rawls (1993; 1997), Joshua Cohen (1989; 1996); Seyla Benhabib (1996), but also John Bohman (Bohman and Rehg 1997; Bohman 1998; Bohman 2007), Charles Larmore (1999), Bruce Ackerman (1991, 1998, 2004), Frank I. Michelman (1986), Anthony Simon Laden (2014), Alessandro Ferrara (2014). Actually, in the Introduction to their seminal Handbook, André Bächtiger and colleagues distinguish between what they define as "first generation" and "second generation" of thinkers on the subject, including amongst the former scholars who developed their

definition of deliberative democracy at the beginning of *Why Deliberative Democracy*, their main study from 2004. As they argue:

> "Most fundamentally, deliberative democracy affirms *the need to justify decisions* made by citizens and their representatives. Both are expected to justify the laws they would impose on one another. […] Its first and most important characteristic, then, is its *reason-giving requirement*. The reasons that deliberative democracy asks citizens and their representatives to give should appeal to principles that *individuals who are trying to find fair terms of cooperation cannot reasonably reject*. The reasons are neither merely procedural ("because the majority favours the war") nor purely substantive ("because the war promotes the national interest or world peace"). They are reasons that should be accepted *by free and equal persons seeking fair terms of cooperation*" (Gutmann and Thompson 2004, p. 3 – *italics added*).

As argued by its main proponents, deliberative democracy should be conceived as a democratic decision-making process according to which representatives and citizens' viewpoints can be presented in the public arena only as long as they can be supported by reasonable justifications (Gutmann and Thomson 1996; 2004). Therefore, as Gutmann and Thompson explicitly put forward, the most relevant feature of deliberative democracy is the so-called "reason-giving requirement", where "giving reasons" means providing justifications for the actions, behaviours, and viewpoints proposed and eventually endorsed. Because the effects of a publicly made decision will fall not just upon the single citizen (or representative) making it, but upon all citizens (and representatives) bound by the same decision, we – as citizens inhabiting the public arena – are asked to justify our decisions in a way that is at least publicly comprehensible and sustainable.

The second part of the quote explains under what conditions a judgment might be considered rationally justified. The definition of rational justification endorsed here appeals to an idea of

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accounts in the in the 1980s and 1990s, and amongst the latter those who developed their views from 2000 onwards (Bächtiger et al. 2018, pp. 3-5).

reciprocity, according to which a position is justified in a rational way when it is bound to principles that free and equal individuals geared to finding fair terms of cooperation cannot reasonably reject (Gutmann and Thomson 1996; 2004). This perhaps apparently simple expression conveys two fundamental features of the deliberative democratic ideal. On the one hand, it defines the criterion according to which a viewpoint can be *presented* (though not necessarily accepted) within the public arena. Instead of pertaining to the content of the viewpoint, this involves *the way in which said viewpoint is expressed*, which, in Gutmann and Thompson's account, is referred to as the decisional process that makes use of *rational argumentation* as the unique legitimate way for presenting and defending positions within the public sphere[6]. In reality, the emphasis put on the level of the justification does not totally exclude the importance of content in the deliberative domain. Indeed, the requirement that a viewpoint, in order to be legitimately advanced, should be acceptable by free and equal individuals, automatically excludes various irrational, extreme, dominant and unfair positions already[7].

6 As will be properly explained in Chapter 3, original deliberative theorists considered reason and rational argumentation as the only legitimate forms of interaction. More recent views, however, mainly articulated in deliberation critiques, have underscored the importance of integrating reasons with emotions, and, specifically, reasonable arguments with "non argumentative contributions". As to emotions, Marta Nussbaum, for instance, stresses the role of compassion in good public reasoning (2001), while Sharon R. Krause (2008) and Michael A. Neblo (2015) contend that empathy plays an important role in public deliberation. As to non argumentative contributions, other kinds of communication accepted in the context of public deliberation include: "testimony", defined as reporting one's own experience on the matter under debate (Sanders 1991; 1997); "rethoric", that is, persuasive speaking and "storytelling", interpreted as communication that may lead to prescriptions based on personal understanding rather than abstract arguments (Young 2000, Ottonelli 2017).

7 A possible way of explaining what defines a position as unjustified within a deliberative democratic account is to recall Rawls' words from *The Idea of Public Reason Revised*, which clearly inspired the deliberative democratic criterion of *reasonableness*: "Central to the idea of public reason is that it neither criticizes nor attacks any comprehensive doctrine, religious or nonreligious, *except insofar as*

In addition to the reason-giving requirement, other criteria have been set forth by theorists of deliberation for defining a reason as valid or justified. First of all, reasons provided must be *accessible*, that is, both transparent and comprehensible. This is the so-called "accessibility requirement" (Gutmann and Thompson 2004, p. 5), which has been interpreted in a twofold manner: as procedural and substantial accessibility. According to the former, the act of providing citizens with reasons (and, therefore, deliberation) must take place *in public*, not only in the privacy of one's mind:

> "in this respect deliberative democracy stands in contrast to Rousseau's conception of democracy, in which individuals reflect on their own on what is right for the society as a whole, and then come to the assembly and vote in accordance with the general will" (Gutmann and Thompson 2004, p. 4).

Secondly, the principle of accessibility interpreted as "substantial accessibility" recalls the principle of clarity, which is premised on the recognition that a deliberative justification does not even begin to materialise if those to whom it is addressed cannot understand its essential contents. As the authors rightly point out, this criterion does not imply that citizens need to possess the technical expertise necessary to have complete access to the matter discussed, and, as a result, to be able to directly evaluate its content: "Citizens often have to rely on experts. This does not mean that the reasons, or the bases of the reasons, are inaccessible" (Gutmann and Thompson 2004, p. 5). As concepts, accessibility and reliability of experts do not mutually exclude each other. Accessibility in this second sense requires *intelligibility* of reasons, or, in other words, that reasons provided are comprehensible[8].

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that doctrine is incompatible with the essentials of public reason and a democratic polity. The basic requirement is that a reasonable doctrine accepts a constitutional democratic regime and its companion idea of legitimate law" (Rawls 1997, p. 766 – *italics added*).

8 Alternative conceptions of "justified reason" have been proposed in the literature. Kevin Vallier, for instance, criticizes shareability as condition for acceptability in public arena: shareability entails that each citizen affirms "the reason as her own at the right level of idealization", thus leaving aside her "subjective motivational set" (Vallier 2014, pp.

The last two requirements concern the duration of the validity of the decisions taken through deliberation. These are the "binding requirement" (Gutmann and Thompson 2004, p. 5) and the "dynamism of the process" (Gutmann and Thompson 2004, p. 6).

The "binding requirement" states that, in order to maintain political stability, decisions resulting from deliberation should be considered as binding (at least for a certain period of time). To underline the significance of this requirement, Gutman and Thompson argue the following:

> "[…] the deliberative process is not like a talk show or an academic seminar. The participants do not argue for argument's sake; they do not argue even for truth's own sake (although the truthfulness of their arguments is a deliberative virtue because it is a necessary aim in justifying their decision). They intend their discussion to influence a decision the government will make, or a process that will affect how future decisions are made. At some point, the deliberation temporarily ceases, and the leaders make a decision. The president orders troops into battle, the legislature passes the law, or citizens vote for their representatives. Deliberation about the decision to go to war in Iraq went on for a long period of time, longer than most preparations for war. Some believed that it should have gone on longer (to give the U.N. inspectors time to complete their task). But at some point the president had to decide whether to proceed or not. Once he decided, deliberation about the question of whether to go to war ceased" (Gutmann and Thompson 2004, pp. 5-6).

The last requirement is the "dynamism of the process", according to which decisions must also be open to provisionality – that is, to the possibility of being challenged and eventually replaced in the future in case they do not appear valid anymore. *Provisionality* is one of the main strengths of deliberative democracy. This is due to two main reasons, also reported by deliberative democratic theorists. First, human understanding and decision-making are imperfect; therefore, we cannot be completely sure that what is

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109-110). Against this backdrop, he contends that successful public justification may be ideally made up of "patchworks of private reasons, without the appeal to a shared fund of justificatory reasons" (Vallier 2016, p. 597). On the same line of reasoning, see also Matteo Bonotti and colleagues (Bonotti 2017; Badano and Bonotti 2019).

considered valid today will be also considered valid tomorrow. Moreover, in politics most decisions are not consensual, meaning that they might be aligned with the preferences of most citizens – but certainly not all citizens. That decisions are not irreversible, then, could make them more acceptable also to those who disagree with the original decision. Ideally, if a decision is provisional, the segment of the citizenry disagreeing with it may still be capable of modifying the decisional course in the future. The authors conclude by arguing that:

> "Combining these four characteristics, we can define deliberative democracy as a form of government in which free and equal citizens (and their representatives), justify decisions in a process in which they give one another reasons that are mutually acceptable and generally accessible, with the aim of reaching conclusions that are binding in the present on all citizens but open to challenge in the future." (Gutmann and Thompson 2004, p. 7).

It is true, however, that the rhetoric of reason-giving recognized by both supporters and opponents of deliberative democracy has not prevented deliberation from being discredited for being both imperfect and value-laden. Indeed, although deliberation is primarily conceived of as a decision-making model, deliberative theorists neither specify a unique procedure to reach decisions, nor do they exclude the need to appeal to combined decision-making models for reaching conclusive decisions, e.g., deliberation in the context of reason-giving, but majority rule for the final outcome. Conversely, it is possible to criticize deliberation – more than aggregative models – for its value-laden nature. This is the case because deliberation leverages on three substantial principles – reciprocity, transparency, accountability – as well as on several fundamental assumptions, such as privileging a reason-based approach for giving reasons rather than an emotion-based one.

In relation to these two aspects, aggregation certainly comes with indisputable advantages. First of all, aggregation is a method which, at least in theory, makes possible the generation of determinate outcomes[9]. If in the case of deliberation we cannot

9 The reason why this is rather an ideal than a real outcome is due to

take for granted that a decision will be reached by the sole means of a reasons/arguments exchange, the same does not apply to aggregation. Ideally, by merely aggregating citizens' preferences we *should* arrive at a decision. And, as argued by Gutmann and Thompson, this is "no small advantage in dealing with the problem of disagreement, especially in disputes that are not resolvable on reasonable terms" (Gutmann and Thompson 2004, p. 15).

Secondly, aggregation may be preferable over its deliberative counterpart when it comes to addressing moral disagreement, because its procedures are relatively uncontroversial:

> "The methods of aggregative democrats are not morally neutral, as they sometimes claim, but the methods do not entail positions on most substantive issues, and do not pass moral judgment on the individual preferences that citizens express, however base or noble they may be" (Gutmann and Thompson 2004, p. 15).

Finally, resorting to majority rule entails that decisions reached through aggregation can be considered expressions of the views of the majority of the population. Although this cannot be necessarily considered as an end in itself, taking a decision which gained the support from most citizens is generally regarded as fair.

Even if these arguments may be advanced in support of aggregative models of decision-making, however, two additional arguments, discussed in the next section, may definitely tip the balance towards deliberation as a preferred model for public decision-making.

2.3 *Tipping the balance: endogenous and exogenous reasons in favour of deliberation*

From the outset, the main distinguishing feature of deliberative approaches has been a particular interpretation of so-called "preferences". Indeed, far from considering preferences as given in advance, in the context of deliberation they are considered to be those *refined* opinions and beliefs resulting from the deliberative

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the challenges already pointed out by supporters of the Social Choice Theory. For a survey of those problems, see also David Miller 2002.

process itself. According to supporters of the deliberative ideal, before actual deliberation takes place, we can merely speak of *undetermined* opinions and beliefs, which may become real preferences only through the process of discussion and *reason-giving*[10]. Accordingly, any decision-making ought to start from such process.

Although this might be interpreted as a mere terminological issue, it is argued in this volume that precisely the definition of preferences as *the product* of deliberation, leads to the consideration of deliberation as a more legitimate decision-making model for a public sphere rife with moral disagreement. A number of considerations may be provided in support of this claim.

First, by refusing to take for granted expressed preferences as a given starting point for decision-making, deliberation challenges the existing distribution of power in society, which, within aggregative models, would be accepted and even reinforced (Gutmann and Thompson 2004, p. 43). Likewise, as a *learning process*, deliberation is also bound to empower the general population in the context of participation in public discourse and decision-making processes (Fung 2003; Fishkin and Luskin 2005). In other words, although reason-giving involves a more challenging process than the mere aggregation of preferences, because it requires considerable investments in terms of effort, time, and money (e.g., citizens should be informed, should be trained so as to adopt an argumentative way of reasoning), the public sphere resulting from various processes of deliberation is likely to appear improved, specifically in terms of being more aware and respectful of the plurality of societal viewpoints.

These observations do not necessarily imply that we should regard deliberation as the *unique* decision-making method, as aggregation of preferences preceded by deliberation is considered a legitimate option as well. As pointed out by Bächtiger and collegues "that deliberative and aggregative democracy contrast conceptually does not make them antithetical in practice" (2018, p. 2).

10 For an interesting and recent contribution stressing the importance of reason-giving and its relation to the epistemic quality of deliberation see Enrico Biale and Federica Liveriero 2017.

At the same time, however, it is quite possible to invoke this line of reasoning to justify the view that aggregative models alone are less legitimate than deliberative models alone. This is possible because even in those cases in which, through deliberation, interlocutors do not arrive at consensus and, therefore, aggregation is needed, the preferences that will then be aggregated will be more refined than the ones potentially generated without prior deliberation. We can refer to this concept as "the possible transformation of opinion and beliefs". It suggests that even if citizens do not change their opinions during deliberation, the preferences resulting from this process may still be considered more informed, reflexive, and better expressed than the ones that would have resulted from the aggregation model (Gutmann and Thomson 2004, pp. 13-14).

In addition to the above, a further consideration in this discussion helps to tip the balance in favour of deliberation. Even if we would be persuaded that the account of legitimacy proposed by supporters of aggregation is superior to the one supported by deliberative democrats, such legitimacy is still achieved more effectively through a deliberative approach rather than an aggregative one. Aggregative models are presented in particular as more efficient than their deliberative counterpart in terms of realising popular will. Yet as established by Condorcet and Arrow, amongst others, this assumption is problematic. Because aggregation does not appear as a reliable measurement of citizens' preferences, it is even impossible to consider it the best means to realise popular will. The same does not hold for deliberation, at least not to an equal degree. Once it is accepted that preferences resulting from deliberation are closer to people's considered beliefs and interests, if not fully corresponding with them, the equal consideration granted by deliberation to any reasonable position involves that the aggregative conception of legitimacy is better achieved through deliberative models.

3. *Deliberative democracy and public bioethics*

Leveraging upon the intrinsic dialogic nature of deliberation – as well as its emphasis on reason-giving which creates an atmosphere

of respect across interlocutors – some scholars have proposed the integration of deliberation into the realm of public bioethics, as a subfield of bioethics dominated by "value conflict and high pressure for decision and regulation" (Moore 2010, p. 715).

In what follows, I first explain what public bioethics is, before zeroing in on its institutionalisation within public bioethics bodies. Next, I proceed to report on several relevant challenges raised by public bioethics bodies (§3.1). I will also show that some of these challenges may be addressed by rethinking public bioethics bodies as deliberative settings inspired by deliberative principles and ideals. I then argue that the connubium between public bioethics and deliberative democracy is neither very recent nor surprising, since the two share relevant features, and are directed towards similar purposes (§3.2). In §3.3, I explain that, in addition to theoretical proposals, some practical attempts have already been carried out to institutionally implement public deliberative bioethics, both as established commissions, and, more recently, as deliberative methods for public consultation in case of controversial public bioethics and/or public heath ethics topics. In the last section (§3.4), I contend that despite the need to overcome the challenges affecting public bioethics (as discussed in §3.1), *deliberative* public bioethics bodies should also tackle new and more insidious problems, deserving proper consideration. One of them is the role of bioethical experts. In the conclusion I briefly sketch how this issue will be addressed in next chapters.

3.1 *Public bioethics and public bioethics bodies: definitions and challenges*

Public bioethics refers to the whole range of bodies and procedures, such as national ethics councils, parliamentary ethics commissions and public consultations on bioethical issues, which have emerged from rapid advances in health care provision, health technology and medical research, and were appointed to inform and guide public decision-making with respect to ethical considerations (Fletcher 1994; Kelly 2003; Kass 2005; Moore 2010; Flanigan 2013; Childress 2020).

In debates surrounding public bioethics, much effort has gone

to the definition and discussion of public bioethics bodies (Dodds et al. 2003; Kelly 2003; Trotter 2006; Kim et al. 2009; Moore 2010; Childress 2020). This can be explained on the basis that "the establishment of international, transnational and national bioethics bodies has marked the development of bioethics in the last three decades" (Dodds et al. 2003, p. 326). While public bioethics bodies have historically been established at a variety of levels – from the regional to the national, through to the supranational (e.g., the European Group on Ethics in Science and New Technologies, established by the European Commission in 1991) – this chapter will focus on those established at the national level (e.g., Nuffield Council on Bioethics in the UK or The National Bioethics Committee in Italy)[11]. This methodological choice owes to the consideration that this type of bodies has played a major role in shaping public bioethics debates and policy on a broad set of ethically sensitive issues, ranging from beginning of life and end-of-life issues (Sanchini et al. 2014) to topics linked to human-subject experimentation (Childress 2020). As such, they represent an insightful case study as regards the main concerns of this chapter.

National public bioethics bodies are defined in the literature as:

> "entities established by national governments, usually with a statutory base and a permanent existence, subject to periodic renewals of membership. […] While their terms of reference, roles, functions and tasks vary, what they have in common is that their activities are directed to bioethical matters. […] Their concerns address areas of policy and legislation that are explicitly recognised to be ethically contentious: ethical issues in the provision of health care, the development and deployment of health care technology and the conduct of research in health-related areas" (Dodds et al. 2003, p. 327).

National public bioethics bodies are usually assigned many responsibilities, from contributing to public debates, to providing expert opinion on ethical issues to be addressed in policy

11 The entire list of national ethics commissions is reported in the "National Ethics Commissions database" on the World Health Organisation website: https://apps.who.int/ethics/nationalcommittees/nec.aspx

deliberations, to contribute to the formation of public policy (Dodds et al. 2003, p. 327). International literature divides these bodies into two categories, distinguishing between *advisory* and *policy-making* national public bioethics bodies (Dodds et al. 2003, p. 328). Advisory bodies are referred to as entities appointed to articulate debates about the ethical issues involved in any area of potential policy formation, and may also comment and respond to suggested policy in advising the public. Policy-making bodies are instead referred to as bodies specifically appointed to develop public policy on ethical issues of public relevance. Accordingly, advisory bodies have an indirect influence on policy formation while policy-making bodies have a direct influence on it.

Literature on "boundary organisations" has unveiled some of the limitations of national public bioethics bodies. In particular, these bodies seem to be affected by many of the criticalities typically ascribed to expert groups. *(i)* First, using the language of consensus building (Kelly 2003), they *de facto* look for an ethical unity (Moore 2010), which results in the acceptance of a *thin* and *procedural* morality (Evans 2002), unable to reflect the genuine moral pluralism characterizing contemporary liberal democracies. *(ii)* Moreover, national public bioethics bodies "relegitimize the professional autonomy of scientists against moral and political demands by various publics through the discursive ambiguity end subsequent "repurification" of ethics advisory roles and expertise" (Kelly 2003, p. 340). *(iii)* This may also result in the well-known problem of expert domination (Moore 2010). *(iv)* A final problematic issue concerns representation and accountability. Ideally, national publics bioethics bodies should not only embed a plurality of disciplinary domains and expertise, but also represent the interests of those affected by the decisional outcome: the public. Notwithstanding the overarching difficulty of subsuming "the public" under a univocal, well-defined category (Braun et al. 2007; Braun 2008), national public bioethics bodies nevertheless run the risk of representing the interests of a very small minority only[12].

12 On this point, Carl Griffin Trotter, for instance, reports the case of the *National Commission for the Protection of human subjects in Biomedical and Behavioural Research* ("National Commission"),

3.2 *Deliberative bioethics bodies: public bioethics and deliberative democracy as natural allies*

As it will be extensively shown in this section, the connection between deliberative democracy and public bioethics is so deeply-rooted that some scholars defined them as "natural allies" (Kim et al. 2009; Kim et al. 2017). In what follows, I will contend that such an alliance may be conceptualised in a twofold manner. While a first narrative focuses on deliberative democracy and, on this basis, develops a role for public bioethics, the second narrative acknowledges the primacy of public bioethics and rethinks deliberative democracy accordingly. Below I explain both narratives in more detail, beginning with the first narrative.

Drawing from the above challenges affecting national bioethics bodies, contemporary commissions have progressively started to incorporate deliberative ideas, assumptions and practices, developing in what can be regarded as deliberation-inspired bodies (Abelson et al. 2003; 2007; 2012; 2020; Kim et al. 2009; 2017; Dodds et al. 2003; Dzur and Levin 2004; 2007; Moore 2010). Although they are diverse and heterogenous in several aspects (e.g., they have different institutional designs, and cover different positions in regulatory structures), they display certain commonalities. In particular, they share a commitment to *expanded public involvement* and an *emphasis on communication*, meant as potential transformation of preferences (see §2.2), which both contribute to their location within the family of deliberative bodies (Moore 2010, p. 717).

Expanded public involvement may be considered as a core feature of democratic deliberation. Mark Warren, for instance, argues that:

> "deliberation about matters of common concern should not be restricted to political representatives, judges, media pundits, technocrats and other elites, but should infuse a society so structured

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which, in his view, far from embedding the viewpoints of the general public, actually represented "the ideology of the Democratic Party officials who appointed them" (Trotter 2006, p. 239), clearly a "partisan public" (Moreno 1995).

> that it underwrites ongoing processes of public opinion-formation and judgement" (Warren 2002, p. 174).

Public involvement in deliberative democracy is so relevant that Will Kymlicka contends that the origin of contemporary theories of deliberative democracy should be seen as a response to tensions between liberal individualism and communitarianism – in particular, between rights and justice (promoted by liberal individualists) on one hand, and community membership (promoted by communitarians) on the other. Deliberative democracy, in its emphasis on the office of citizenship, would have proved successful in integrating these phaenomena (Kymlicka 2002, p. 284). What it means to involve the expanded public in policy decisions is still open to interpretation. When interpreting this requirement in a thin manner, however, this means that "in liberal democracies current regulation on ethical issues should incorporate the normativity behind the moral opinions of layperson" (Kim et al. 2009, p. 3).

But the most relevant feature of deliberative democratic models is communication interpreted as a potentially transformative process. As pointed out by Jon Elster, democracy, and deliberative democracy in particular, "revolves around the transformation rather than simply the aggregation of preferences" (Elster 1998, p. 1). Communication about political issues is conceived here as shaping preferences and interests of stakeholders taking part in the communicative process itself.

To conclude, insofar as contemporary public bioethics bodies share these features, many consider such bodies as belonging to that group of institutions and practices that seek to add a deliberative dimension to political processes (Black 1998; Dodds and Thomson 2006; Trotter 2006). Following the same reasoning, if more radically, Moore has claimed that public bioethics may be seen "*as a form* of deliberative democracy" (Moore 2010, p. 715 – *italics added*).

Conversely, the second narrative – a different, yet closely interrelated one – considers deliberative methods as the perfect tool available to public bioethics bodies to address controversial ethical issues of public interest. Seizing on its capacity to constructively deal with (value) conflicts, deliberation is considered, by some, to

be a promising tool for addressing moral disagreements of public relevance (Crawshaw et al. 1985; Bowling et al. 1993; Bowie et al. 1995; Gutmann and Thompson 1997; MacLean and Burgess 2010; King et al. 2010; Meagher and Lee 2016).

Whatever the narrative, there seem to be good reasons to endorse both views. Literature shows that public bioethics has a self-understanding that explicitly refers to deliberative democratic ideals (Moreno 1995; Trotter 2006; Moore 2010). On the other hand, public bioethics and public health ethics have proved very interesting as testcases for reflecting on the goals and methods of deliberative democracy (Abelson et al. 2003; 2007; 2012; 2020; Kim et al. 2009; 2017).

Current debates surrounding these two narratives show us that the connubium between (public) bioethics and deliberation is hardly a recent one. In a seminal paper from 1997, Gutmann and Thompson refer to bioethics as deeply related to conflicts, in particular moral disagreements on public relevance:

> "In some sense, bioethics was built on *conflicts*. Abortion, physician-assisted suicide, patients' demand for autonomy all are staple and contentious issues. And the controversies continue to proliferate" (Gutmann and Thompson 1997, p. 38 – *italics added*)[13].

A few lines above, they present what they consider the best tool available to (public) bioethics for addressing such disagreements:

> "What forum best serves such debates? A look at *political theories of democracy* can help answer that question. The most promising for bioethics debates are theories that ask citizens and officials to justify

13 Gutmann and Thompson are implicitly endorsing one of the most recurrent interpretations of what bioethics is: a form of *applied ethics* (Jonsen 1998; Veatch 2003; Hedgecoe 2004; Kuhse and Singer 2006). According to this interpretation, bioethics can be defined as a peculiar kind of ethical reflection that applies principles and reasonings belonging to the domain of normative ethics to contingent controversial ethical issues – i.e., conflicts – with the final aim to provide a solution to them. Leaving aside the exploration of what should count as normative ethics within this explanatory model, what matters here is the importance granted in bioethical debate to underlying reasons, namely conflicts and/or dilemmas at the origin of bioethics' enterprise.

> any demands for collective action by giving reasons that can be accepted by those who are bound by the action. This conception has come to be known as *deliberative democracy*" (Gutmann and Thompson 1997, p. 38 – *italics added*).

Deliberative democracy, conceived as a political theory regulating public decision-making, appears to be, according to its founding proponents, "the most justifiable conception for dealing with moral disagreement […]" in the public sphere (Gutmann and Thompson 2004, p. 10). After establishing that the bioethical enterprise owes its origin to moral conflicts, Gutmann and Thompson define deliberation as the most valuable *method* those engaged in bioethics can deploy in order to address and possibly resolve such conflicts.

They provide four reasons in support of their claim. The first reason why deliberation appears as an effective tool for public bioethics lies in its capacity to promote *the legitimacy of collective decisions*. Insofar as it allows anyone taking part to the debate to influence and impact on the decisional outcomes, deliberation may contribute to rendering decisional outcomes more acceptable, even to those who end up deprived of valuable goods (e.g., in contexts of allocation decisions in the face of scarce resources) (Gutmann and Thompson 2004, p. 10). In the authors' words:

> "The hard choices that public officials and health care professionals make should be more acceptable even to those who receive less than they deserve if everyone's claim have been considered on their merits, rather than on the basis of the party's bargaining power" (Gutmann and Thompson 1997, p. 39).

The second reason is that deliberation, when compared to its aggregative counterparts, better enables *the development of public-spirited perspectives* on the issue to be debated, thus potentially challenging the limited generosity of the individuals entitled to take decisions (Gutmann and Thompson 2004, pp. 10-11). Very few people are inclined to wholly altruistic behaviours when public policy issues are at stake. Aggregation does not seem to positively affect this process, as it is directed at maximising the chances that citizens' interests are considered and practically implemented,

rather than at changing citizens' minds and behaviours. Differently, although deliberation will not probably "turn self-centered individuals suddenly into public-spirited citizens" (Gutmann and Thompson 1997, p. 39), by asking citizens to engage in the reason-giving process, they will be forced to take others' perspectives into consideration, thus being nudged towards (genuine or induced) altruism. The same concept has been expressed by John Stuart Mill in the *Considerations on Representative Government*. Referring to public discussion, he claims that a citizen is:

> "called upon […] to weight interests not his own; to be guided, in case of collective claims, by another rule than his private partialities; to apply, at every turn, principles and maxims which have for their reason of existence the common good" (Mill 1861, p. 68).

This second reason is deeply related to another reason in support of deliberation as a more legitimate model for public decision-making. According to this third reason, deliberation promotes *mutually respectful decisional processes,* as it requires citizens to acknowledge and respect very different positions (Gutmann and Thompson 2004, p. 11). Although deliberation does not seem to be capable of rendering incompatible values compatible, it has been shown to play a substantial role in enabling the distinction between genuine and ungenuine (i.e., apparent) disagreements (Gutmann and Thompson 1997, p. 40), while unmasking and thus solving the latter.

Finally, deliberation helps *to correct those mistakes that arise as a consequence of collective decisions*, due to another source of moral disagreement, namely our incomplete understanding of states of affairs (Gutmann and Thompson 2004, p. 12; 1997, p. 40). If bargaining and negotiation might only lead citizens to learn how to obtain what they want (Gutmann and Thompson 1997, p. 41), it is "through the give and take of arguments" (Gutmann and Thompson 1997, p. 40) that citizens can learn from each other, recognizing possible collective and individual misrepresentations, and eventually expanding their knowledge.

To conclude, in this section I outlined theoretical justifications in support of the claim that deliberation is a more legitimate

procedure for public decision-making, at least in the context of controversial public bioethical issues, or public bioethics. This argument also seems to justify the claim that public bioethics, as well as bioethics in general, appears to deliver on democratic ideals. From its inception, bioethics comprised a strong commitment to deliberative processes (Moreno 1995, p. 6). Accordingly, bioethics should be considered not only as a field of study, but also as "a set of social practices" (Moreno 1995, pp. 6, 55-72) and as a "social reform movement" (Moreno 1995, pp. 143-159) based on a particular conception of democracy. More recently, Trotter has claimed that the field of bioethics as a whole tends to be committed to a broadly deliberative democratic conception of its political role (Trotter 2006, p. 238). Following Joohoan Kim, the above-discussed provides a strong justification for conceiving bioethics, understood as public bioethics in particular, and deliberative democracy as "natural allies" (Kim et al. 2009; 2017).

3.3 *Practice of deliberative public bioethics: methods and preliminary experiments*

In addition to theoretical debates, deliberation has also been shown to have some concrete impact on citizen's preferences (Fishkin and Luskin 2005; Fishkin 2009; List, Luskin, Fishkin and McLean 2013). Deliberative democracy is not only a theory, and the pursuit of public deliberation has a long and active history of its own, quite apart from the theoretical developments in political philosophy (Gastil and Keith 2005).

Nowadays, there are different models designed to implement deliberative democratic methods in policy-making[14]. These models go by the name of Deliberative Polling® (Fishkin, 1997), Citizens Jury (Crosby et al., 2005), 21st Century Town Meetings (Lukensmeyer et al., 2005), and National Issues (Gastil and Kelshaw 2000), to mention just the most relevant ones. Some

14 On this point, Kim observers that it is not correct to refer to "the" deliberative democratic method, because there are many deliberative methods (Kim 2009, p. 6).

experts have adapted and merged different methods, in attempts to improve public deliberative input into policy (Carson et al. 2005).

In recent years, the impressive proliferation of empirical work in deliberative democracy has generated several theoretical contributions investigating the relationship between the theory and practice of deliberative democracy, as well as multiple reviews on the topic (Chambers 2003; Carpini et al. 2004; Ryfe 2005; Thompson 2008).

These works have shown that deliberative techniques have been used to study a broad range of topics. As explained in the next section, Robert Luskin, James Fishkin, and colleagues have conducted deliberations in several countries – from the United States, to the European Union, to Australia – to inform and collect citizens' views on a range of issues in economic, social, and foreign policy.

The close ties between public bioethics and deliberative democracy also explains the proliferation of works in the contexts of both health policy and bioethics. Regarding the latter, literature reviews of public engagement on public priority setting and resource allocation have shown that deliberative democratic approaches implemented to elicit and collect public preferences are on the rise (Mitton et al. 2009). Other studies have inquired, through deliberative methods, citizens' views on health screening as proper strategy for cancer prevention, resulting in the identification of overdiagnosis as an ethically sensitive issue (Paul et al. 2008). In addition, deliberative methods were used in the context of research ethics. Two deliberative studies, for example, assessed public opinion to inform the issue of medical records research (Damschroder et al. 2007; Secko et al. 2009), while Kim and colleagues (2010) conducted a study on caregivers and primary decision-makers for persons with dementia, assessing their views regarding surrogate consent for dementia research.

But how do deliberative methods work in practice? In the next sections I will address this question by referring to so-called "minipublics", namely, deliberative fora

> "typically consisting of 20-500 participants, focused on a particular issue, selected on a reasonably representative sample of the public

affected by the issue, and convened for a period of time sufficient for participants to form considered opinions and judgements" (Mackenzie and Warren 2012, p. 95).

First, I will explain in detail what minipublics are; I will then focus on a specific instantiation of minipublics: Deliberative Opinion Polling®. This choice is justified on a twofold basis. First, Deliberative Opinion Polling® is referred to as the most significant example of minipublics. Moreover, the original deliberative public bioethics experiment presented in the final part of this work (see Chapter 4) was devised according to the Deliberative Opinion Polling® design.

3.3.1 *Deliberative minipublics*

Deliberative-based experiments have increasingly grown in number in the last few years, becoming widely popular (Karpowitz and Mansbridge 2005; Karpowitz, Mendelberg and Shaker 2012; MacKenzie and Warren 2012; Himmelroos and Christensen 2013). These are commonly known in the literature as "minipublics" (Fung 2003). Minipublics originated from the ideal of creating more perfect instances of the real public sphere[15].

15 As pointed out by Archon Fung, the conditions for deliberation within minipublics differ from the ones potentially present in the real public sphere in three main respects: inclusivity, attention to rationality, and information. Concerning *inclusivity*, deliberation in actual debates might be, for certain reasons, rather unequal, because those included in actual public debates will surely be wealthier, more educated, in a superior powerful position, and endowed with higher communicative and rhetorical skills than the general population. In contrast, what minipublics try to do is to artificially create those conditions conducive to including all the various, diverse voices. Concerning *attention to rationality*, the emphasis put by those who theorize and organize minipublics on the importance of rationality and reasons will presumably lead to greater attention amongst participants for others' positions and arguments. In other words, whereas in the real public arena it is unlikely that citizens take others' positions and arguments seriously, in the artificial setting created by mini-publics, participants' behaviours and attitudes appear more serious and focused. Finally, concerning *information*, there exists a significant difference between the role granted to information in the real public sphere and in minipublics. Indeed, because acquiring information may involve a costly process

The results are artefactual, self-consciously organized deliberative sessions, in which a group of ordinary citizens convene and discuss predefined issues. According to their creators, minipublics appear very promising because they seem to be the most viable means to promote civic engagement and public deliberation in contemporary politics. Moreover, precisely because of their size, they are poised to proliferate and to influence the public sphere, also indirectly (Fung 2003, p. 339).

In practice, minipublics have taken different shapes. They can be differently constituted on the basis of the type of participants selected and recruited, the choice of the subject debated, the "deliberative mode" (i.e., the organisation and style of discussion that are adopted within the deliberative sessions), the choice of how much time the deliberation should take and how it should be organised (i.e., whether the deliberative session is a one-off event or whether it consists of sequence of events).

Significantly, the variously conceived minipublics are all characterized by the *type* of minipublic one decides to set up, which, in turn, is defined on the basis of the ideal public sphere that one would like to achieve. Fung has identified four different types of mini-publics: *i*) as educative forums, *ii*) as participatory advisory panel; *iii*) as participatory problem-solving collaboration; and *iv*) as participatory democratic governance. If the last two kinds of minipublics are specifically aimed at establishing a solid bridge between the state and the public sphere, either in order to solve specific collective problems (*iii*), or to directly incorporate citizens' voices into the determination of policy agendas (*iv*), the first and the second subcategory of minipublics have much more an advisory role. Indeed, when conceived as an educative forum, the main purpose of the minipublic is to create those conditions that allow citizens to better form, articulate, and refine their preferences on a specific issue of public concern, through a process of mutual

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for several reasons (time, education, will, and so on), citizens are likely to form ill-considered opinions in many situations. In contrast, the provision of fair and balanced information to participants as a necessary and unavoidable step of minipublics is likely to lead to discussions and debates that on average are superior to the ones occurring more spontaneously within the public sphere (Fung 2003, pp. 340-341).

exchange. When conceived as a participatory advisory panel, the aim is to further develop the preferences of participants and to create those conditions that should enable citizens' considered opinions to be reflected in social choices (Fung 2003, pp. 340-342).

3.3.2 *Deliberative opinion polling*®

Amongst educative fora, the most contemporary and significant example of minipublics is the so-called Deliberative Polling® or Deliberative Opinion Polling®, originally developed by Fishkin and Luskin at Stanford University. Deliberative Polling® consists of a several-steps fixed procedure, whose main features are the following: first of all, participants are randomly and representatively selected from the population and invited to voluntarily participate in a deliberative experiment over a long weekend. Before coming, they receive some concise and carefully balanced materials about the topic that will be debated. The arguments included in the balanced briefing materials contain both empirical premises and purely factual information. This document, which is supposed to provide a starting point for discussion, is checked and approved for its balance and accuracy by an advisory board of stakeholders composed of experts on the specific issue to be debated (Fishkin and Luskin 2005, p. 288).

Upon arrival, participants are initially surveyed about the issue at stake, so as to ascertain their initial preferences. In fact, during what the creators of Deliberative Polling® have defined as preparatory period – the period from the moment of recruitment to the arrival at the site for deliberation – participants' preferences may have changed in part, and this would influence the results of the first survey. This happens because participants, being aware of the fact that they will be part of an important and visible event, tend to discuss the general issue at stake with their families, friends, colleagues, while many will closely follow relevant stories in the media as well (Fishkin and Luskin 2005, p. 289). Moreover, the mere fact of having received the information materials in advance may cause some participants to explore the issue through online or library research before attending the event. According to the authors, however, two sets of reasons prevent the preparatory period from being really problematic, biasing the first survey:

first, the interaction that occurs during this period is socially homogeneous – since people tend to talk with their peers, the effects of this interaction cannot be equal to the ones possibly allowed for by a real socially mixed situation (like the one occurring in the *in locu* deliberation). Secondly, sociological studies have shown that people tend to turn to sources of information and conversational partners they already agree with, therefore unconsciously looking for those situations in which disagreement with respect to their own ideas cannot be so strong (Fishkin and Luskin 2005, p. 289).
Once they arrive at the site of deliberation and the aforementioned questionnaire has been filled out, they are randomly assigned to small groups (about 15 people each) in which they are asked to deliberate supported by moderators. Moderators, within the Deliberative Polling® account, are individuals whose main task is to "maintain an atmosphere of civility and mutual respect, encourage the diffident, restrain the loquacious, and ensure that all the major proposals and all the major arguments for and against them in the briefing document get aired" (Fishkin and Luskin 2005, p. 288). Thus, as will be extensively discussed in Chapter 3, the role of moderators within Deliberative Polling® is to protect and promote the values of political equality and neutrality.
Deliberative sessions alternate with plenary sessions, in which experts can provide some clarification, if and when necessary. Since potentially arising questions may pertain to not only factual considerations but also broader issues such as costs and consequences of policy alternatives and the possible trade-off, experts should be unbiased in their perspectives.
At the end of the weekend, participants fill out the same questionnaire one more time, so that the final preferences of the same participants can be evaluated. As Fishkin puts it, "the resulting survey offers a representation of the considered judgments of the public – the views the entire country would come to if it had the same experience" (Fishkin 1991, p. 53).

3.3.3 *Merits and limitations of deliberative opinion polling®*

As mentioned, Deliberative Polling® constitutes a specific kind of minipublic: an educative forum. Although working with a specific kind of minipublic comes with inherent limitations,

Deliberative Polling® also has specific advantages. For one thing, this approach is designed to be representative, and therefore it potentially overcomes one of the main controversial features of minipublics: the "participation bias" (Fung 2003, p. 347). This bias suggests that those who participate in deliberative experiments (and experiments in general) will always represent a somewhat disproportionate segment of the general population with respect to particular demographic characteristics (gender, age, education, profession, health, and so on). Moreover, by providing participants with balanced and approved informational materials, as well as with the chance of asking questions to panels of experts, one is likely to ensure high deliberative standards. On the other hand, as with the majority of minipublics, Deliberative Polling® also comes with potential limitations with respect to the impact produced. Specifically, three main reasons can be singled out that may prevent Deliberative Polling® from producing relevant impacts. First of all, participants may prove to have a low level of motivation after all, meaning that they have no strong urge to invest their mental energy and resources in deliberation, because the main issues addressed by Deliberative Polling® only affect citizens' lives indirectly (Fung 2003, p. 345). Secondly, as a one-off event (Fung 2003, p. 354), the deliberation is unlikely to substantially influence citizens' dispositions. Indeed, minipublics have proved that they work as "schools of democracy" (Fung 2003, p. 350), maximising the chances of cooperation and self-understanding when presenting recurrent deliberations. However, this may not occur with deliberative sessions which involve one-off events. That the core intervention of Deliberative Polling® tends to cover a long weekend, however, may help to minimise this problem. Finally, since Deliberative Polling® is not well connected to the levers of state power and decision-making, it has a low potential to influence institutional affairs (Fung 2003, pp. 354-355).

3.4 *Deliberative public bioethics: open challenges*

In the previous sections, I argued that deliberative public bioethics bodies were established as a reaction to the deliberative

turn in political philosophy and biomedicine, and that they were devised to address and ideally overcome the challenges previously arisen in bioethics bodies pertaining to expert commissions. In this context, contemporary public bioethics bodies have been defined as inspired by deliberative ideals in many ways:

> "[…] they publicly deliberate, attempt to incorporate diverse and opposing viewpoints, are led by evaluation of reasons and arguments, and to a limited degree, represent an interdisciplinary perspective, including representatives from the public or from patient advocacy groups" (Kim et al. 2009, p. 6).

In this last section, I discuss how some of the problems ascribed to non-deliberative bioethics bodies have been solved after their deliberative turn. Specifically, I address how the issue of consensus-reaching has been solved by the reconfiguration of public bioethics commissions as facilitating bodies, and how the issue of expert domination has been solved by the educative function of deliberative fora and the employment of a vast proportion of lay members.

As discussed in the last part of the section, however, deliberative bioethics bodies also give rise to challenges, some of which appear even more controversial and difficult to address than previous ones. In particular, following Alfred Moore (2010) and Trotter (2006), I contend that although particular problems related to accountability, fair representation, and, above all, (bio)ethical expertise have been addressed, this did not always imply that they were also resolved.

3.4.1 *From consensus-reaching to facilitation*

One of the first problems of original public bioethics bodies was that, being directed to consensus-reaching, they endorsed the ideal of ethical unity (Moore 2010), which resulted in the acceptance of a *thin* and *procedural* morality (Evans 2002) – one that failed to reflect the moral pluralism of liberal contemporary societies. For a long time, consensus-reaching was considered the legitimate purpose of public bioethics bodies, even after the deliberative turn. This was the case because traditional accounts of deliberative

democracy were theorised as directed towards consensus, the latter interpreted as "substantial ethical unity" (Habermas 1994).

However, more recent deliberative accounts set out to oppose this "republican assumption" (Warren 1996), ascribing to public deliberation a "*facilitation*" role (Moore 2010). Accordingly, public deliberation has been mostly reconsidered as that family of practices aimed at articulating and mediating discussion on contentious ethical issues of public relevance. Facilitation has been interpreted in a variety of manners. Julia Black introduced the notion of "regulation as facilitation": in her view public bioethics should "facilitate communication by taking on the role of *interpreter or translator*: putting the views of each set of participants into a language that the others can understand" (Black 1998, p. 623 – *italics added*). In Trotter's view, facilitation is a process that should encourage cooperation and negotiation among parties: deliberative public bioethics "should be occupied with interpreting particular moral traditions to the polity at large – clarifying points of contention and agreement, and thus facilitating the processes of political negotiation" (Trotter 2006, pp. 246-247). Susan Dodds and Collin Thomson propose a model of "contested deliberation", for which public bioethics bodies should "be viewed as preparatory to open and unscripted public participation" (Dodds and Thomson 2006, p. 336). This preparatory function is intended to initiate public debates and facilitate proper deliberation "by providing or inviting well-informed, articulated expressions of the range of ethical responses held by the community to the issue at hand" (Dodds and Thomson 2006, p. 336). In spite of their differences, these accounts all share the conviction that moral pluralism is a genuine *fact*, as well as that morality is a complex and thick phenomenon. The idea that deliberative public bioethics bodies should mostly play a facilitation role across the various layers and stakeholders inhabiting the public arena is also the position endorsed in this work, as will be extensively debated in Chapter 4.

3.4.2 *From autonomy of scientists and expert domination to citizens education and lay member involvement*

A second problem ascribed to pre/non-deliberative public

bioethics bodies is that they are devised and operate in ways that, *de facto*, legitimize (rather than contest and open up) a ring-fenced and socially insulated space for autonomous decision-making by its expert members, particularly scientists. Drawing from social studies of science, Susan Kelly, for instance, argued that:

> "Scientists have a significant stake in maintaining exclusive control over expert knowledge and autonomy in determining the means and ends of their activities" and, to this end, they "employ tools including rhetorics, objects, and organisations in boundary struggles over authority and control" (Kelly 2003, p. 343).

This also involved a third problem, namely expert domination. Although the latter has been conceptualised in several ways and across different research lines, in this context I refer to its characterisation as developed in Sheila Jasanoff's *Designs on Nature* (2005). Here, Jasanoff considers traditional public bioethics bodies as sites for "boundary work" by scientists and policymakers, primarily aimed at stabilising the relations between science and politics. Taking as an example the Nuffield Council on Bioethics, Jasanoff argues that Britain's scientific community "saw bioethics first and foremost as a device for safeguarding a space for research" (Jasanoff 2005, p. 187). Emphasising its continuity with earlier forms of expert domination, public bioethics appears as an extension of the politics of expertise rather than as a "field of democratic engagement, accessible to ordinary people as well as experts" (2005, p. 191).

Both the autonomy of scientists and expert domination were justified in the literature through a twofold reasoning: first, consideration of the matter under discussion as a purely technical issue, and secondly, and closely related to this, the notion that discussion on technical issues requires expert knowledge, absent amongst the vast majority of citizens.

Deliberative public bioethics bodies tackled these challenges both theoretically and practically. Theoretically, deliberative accounts assume that "justification of the exercise of collective political power is to proceed on the basis of a free public reasoning among equals" (Cohen 1996, p. 99). And, since the fulfilment of the requirements of equal justification and equal reasoners cannot

be taken for granted in contexts of scientific and expert knowledge, deliberative bodies equipped themselves with an educative dimension to minimise such disparities as much as possible:

> "[…] this education was aimed both at members themselves and at the general public, who are typically presumed to have a poor understanding of the technical aspects of the issues" (Moore 2010, p. 718).

In addition to their appointment as educative bodies, the problem of the alleged positional neutrality of its members was symbolically and practically addressed also by populating these bodies with a high number of lay members[16].

3.4.3 *Accountability, fair representation and (bio)ethical expertise: old but still unsolved issues*

As mentioned, accountability and fair representation continue to be potentially controversial issues, however, also for *deliberative* public bioethics bodies. In some cases, these bodies are constituted by top-down political processes (Kim et al. 2009), while representing the ideology of particular selected publics. Drawing from formal participatory exercises in the area of genetic testing, Kathrin Braun and colleagues identified four types of publics: the "partisan public", referring to those who hold strong positions on or have particular interests in a given issue; the "general public", constructed through deliberative methods such as surveys; "pure publics", defined by their distance from a particular issue; and "affected publics", considered to have direct experience of the issue in question (Braun et al. 2007; Braun 2008). As suggested by interviews conducted by Moore on members of deliberative public bioethics bodies, public consultations carried out by such bodies mostly engage with pure and affected publics. Partisan publics are therefore underrepresented in deliberative public bioethics.

16 As concrete examples, Moore refers to three UK bodies: the Human Genetics Commission, the Nuffield Council on Bioethics, and the Human Fertilisation and Embryology Authority. For each body, he reports on the share of lay members in relation to the share of other members.

Drawing from this last consideration, some scholars have criticized deliberative democracy, in particular its participatory feature, claiming that it tends to devolve into aristocracy (Hobbes 1962; Hobbes 1996; Trotter 2006).

In addition to the problem of categorising different publics and arranging them in a hierarchy, deliberative public bioethics bodies seem to be affected by a second, and arguably more significant limitation, namely, the problem of (bio)ethical expertise. Since public bioethics bodies are appointed to discuss controversial ethical issues, ethical experts have powerful roles within these commissions. Even when rethinking public bioethics bodies as facilitative panels,

> "the main concern to be indicated here is that the preparatory and facilitative role indicated above gives significant power to the mediating 'ethics experts', who can reconstruct publics and their ethical positions in ways that differentially assign importance to them" (Moore 2010, p. 716).

In other words, deliberative bodies tend to *frame* ethical issues in ways that allow some kinds of concerns to appear legitimately "ethical", while others appear as merely political or transient matters of public concern (Moore 2010, p. 716). To what extent the issue of ethical expertise so considered represents a real challenge, and how this problem can be properly articulated and addressed, is the subject of the next chapters.

4. *Conclusion*

This chapter has been devoted to decision-making models in the public arena. Starting from the two most relevant models of public decision-making, *aggregation* and *deliberation*, I argued that deliberation appears as a more legitimate procedure for public decision-making, especially in the context of controversial public bioethical issues. Next, I focused on public bioethics bodies as a possible institutionalisation of public bioethics. In the discussion of such bodies, I paid specific attention to *deliberative* public bioethics bodies. These were defined as a reaction to the deliberative turn

in political philosophy and biomedicine, and devised in order to address the challenges affecting bioethics bodies in relation to expert commissions. In the final part of the chapter, I claimed that, in spite of its promises, deliberative public bioethics bodies also present some concerns, notably the problem of (bio)ethical expertise, which still deserves proper consideration. This issue will be further investigated, both theoretically and empirically, in Chapters 3 and 4.

Drawing from the fruitful interconnection between public bioethics and deliberative democracy, and because there are some similarities between the role of bioethical experts in the public arena and that of moderators in minipublics, Chapter 3 will be devoted to a theoretical investigation of the figure of moderators and an exploration of their performance in deliberative experiments. This analysis will help us to identify and properly discuss some of the challenges faced by moderators in realising deliberative ideals, which in turn will help us to reflect on potential pitfalls affecting public (bio)ethical experts in the proper realisation of deliberative principles and values.

3.
"INTERMEDIATING" DELIBERATION
A comprehensive overview of moderators in democratic theory and deliberative practice

1. *Introduction*

In the last two decades a wide range of deliberative and participatory citizen panels have appeared in the context of democratic theory and practice. A vast amount of literature has focused on "intentionally organised public deliberation", also known as minipublics (Fung 2003), trying to explore whether such experimental attempts can really influence policy discourses and decisions, and how; and whether there are some privileged designs to structure these deliberative bodies.

Within this literature, a few studies have dealt with investigating the elements that should ideally contribute to the internal quality of deliberation (Steenbergen et al. 2003; Chambers 2003; Fleck 2007; Thompson 2008; De Vries et al. 2011). Quality deliberation requires careful attention to both the design, the process, and implementation of the deliberative exercise. Although different perspectives and measures exist to define high quality deliberation, some elements have been widely recognised of paramount importance: equality of participation, participant engagement, positive group dynamics, respect for different interlocutors and positions, and – last but not least – group moderation (Steenbergen et al. 2003; Thompson 2008; De Vries et al. 2011).

A crucial role in ensuring high quality deliberation is indeed fulfilled by those who lead the discussion and interact with participants in the conduct of discourse (Moore 2012). These figures have been defined through different labels, spanning from more comprehensive expressions such as "intermediaries" (Landwehr 2014), "participatory process experts" (Chilvers 2008), "third

party interventions" (Smith 2009), to very specific ones, such as "discussion leaders" (Humphreys et al. 2006), "moderators" (Edwards 2002; Fulwider 2005; Wright 2006; Pierce et al. 2008; Wright 2009; Farrar et al. 2009; Park 2012; Landwehr 2014), "facilitators" (Pyser and Figallo 2004; Figallo et al. 2004; Trénel 2009; Gerber 2011; Moore 2012; Levine et al. 2005; Landwehr 2014), "group facilitators" (Anderson 1985), "meeting facilitators" (Smith 2009). Although moderators may perform slightly different functions in relation to the different deliberative institutional arrangements as well as to the aim of the deliberative process, they all act as "*intermediaries"* of deliberation (Landwehr 2014). Following the mostly recurrent expression in the literature, in this work I will refer to these figures by using the term "moderators".

Despite their indisputable importance towards the achievement of good internal quality deliberation, especially in "hot deliberations" with large group discussion where organisation and leadership are fundamental (Kim et al. 2017), these figures have been largely under-investigated, both theoretically and empirically (Forester 1999, Loeber 2004, Mansbridge et al. 2006, Chilvers 2008, Smith 2009, Escobar 2010, Loeber and Vermeulen 2010, Gerber 2011, Moore 2012). Jason Chilvers stressed, for instance, that scant attention has been paid in the literature with respect to "the actors shaping these new forms of science-society interaction" (2008, p. 155). Graham Smith concludes his analysis by noting that a theoretical elaboration of the influence of different modes of facilitation is "strangely absent" from the literature (Smith 2009, p. 198). And, although we may expect that they may have some effects on deliberation, both Sunwolf and Lawrence R. Frey (2005), and Marlene Gerber a few years later stress that it is "astonishing" how little attention has been paid to the evaluation of the success of moderators in creating a "balanced and inclusive discussion atmosphere" (Gerber 2011, p. 8).

Drawing on both the literature from deliberative democratic theory, and from empirical studies and critiques of deliberation in practice, this chapter aims to fill this gap, by providing a comprehensive overview of the figure of the intermediaries of deliberation, exploring potential reasons for their neglect, detailing roles and tasks as present in current political theory and

political science literature, eventually summarising the already present empirical studies which tried to measure their effect on deliberation itself.

2. *Moderators: why they eschewed proper consideration*

If moderators' importance in ensuring high internal quality deliberation is doubtless, a first question to be asked is why these figures have not received proper consideration in existing political theory and political science literature.

As reported in this literature, there are two main sets of reasons, related to the theory and practice of deliberation, respectively, explaining why the practice of deliberative moderation has been mainly under-explored.

From a theoretical standpoint, deliberative theorists have been for long concerned with providing a deliberative democratic account of legitimate political authority, rather than with institutional implementations of deliberation (Moore 2012). Such an account rested in the idea that political authority could have been justified only if conceived as acceptable by all citizens. This led to the focus, within the theoretical debate over deliberative democracy, on the issue of "generalisable reasons" or "reasons that all can accept" (Bohman and Richardson 2009).

Even within scholarly debate concerning middle-range theorising and practice, the different attempts developed to institutionalise deliberation have been interpreted not only as "more perfect public spheres" (Fung 2003, p. 338), but also "in terms of the 'regulative ideal' of Habermas' counterfactual ideal speech situation" (Moore 2012, p. 148). This means considering such institutional configurations, in particular minipublics, as settings where deliberative values such as liberty to speak, equality, possibility to express personal attitudes, desires and needs (Habermas 1995, p. 89) should be seen not only as regulatory ideals but also as partially realisable norms.

However, the *practice* of moderation seems to move in a different direction. To organise deliberation, the moderator is required to put in place at least some degrees of coercion: choosing among

participants who are allowed to take part in the deliberation; similarly, the introduction and questioning of assertions as well as the expression of attitudes, desires, and needs by the side of participants has to be limited, etc. In other words, although deliberative theory theorises deliberation as grounded in – and promoter of – specific ideals such as equality, inclusion, absence of coercion, etc., deliberation in its practical implementations is not able to self-realise such ideals, but requires an intermediator, the so-called moderator, who, by partially downsizing deliberative ideals, enables deliberation to be carried out as an organised practice capable of realising more feasible principles (e.g., selected inclusion, equality amongst peer-participants). In Moore's words:

> "organized deliberative practice seems to require the presence of actors who intervene to make the discourse happen, yet deliberative theory treats ideal deliberation in terms of the absence of coercion, repression and inequality[1]" (Moore 2012, p. 149).

Besides her role in making deliberation as an organised practice, the presence of the moderator meant as "non-peer amongst peer" may also sound as an explicit violation of the principle of equality, the latter indisputably regarded as one of the core values of deliberation. As stressed by Claudia Landwehr (2014, p. 78), in principle, the presence of an intermediator violates the principle of equality insofar as the intermediator is granted a superior power not owing to the superiority of her own arguments, but because of her assigned role.

Less radical, while equally critical, perspectives stress that, even leaving aside concerns for equality, difficulties in maintaining a neutral position by the side of moderators may result in an undue influence on the outcomes of deliberation. On this point, Peter Levine and colleagues claim that good deliberation is not self-

1 Though majoritarian, the view that deliberation is able to promote inclusion and equality has raised some concerns among critics of deliberation. They have argued that deliberation is actually leading to new forms of exclusion (Sanders 1997; Young 2000), and even that deliberation may be actually considered as a new and more subtle form of coercion (Kadlec and Friedman 2007).

generating; but by organising deliberation (i.e., by introducing moderators) there is a risk of overly influencing it (Levine et al. 2005). Following the same reasoning, John Fulwider (2005) argues that, since they are in a privilege position, moderators can subvert both the deliberative process and outcomes, by influencing the course of the discussion in a fashion which limits individual's ability to choose freely among alternatives.

To conclude, though there are some key pragmatic merits related to the practice of deliberative moderation, theoretical considerations related to potential infringements of the principle of equality, as well as difficulties in keeping moderators as neutral figures, have raised some suspicions towards moderators and their "leadership role" (Landwehr 2014) in creating and maintaining deliberation as balanced and peer-to-peer settings.

From a practical standpoint, as noted by Moore, scholars interested in the empirical investigation of deliberative democracy has been mainly concerned with the *effects* of deliberation rather than with deliberation itself (Ryfe 2005; O'Doherty and Davidson 2010). And, since the moderator might be considered as a *structural element* of the deliberative process, its role, despite intuitively having some effects on the deliberative outcomes, has been mostly taken for granted. Indeed, in most empirical contributions on deliberation, the moderator is uncritically bracketed in the design of the deliberative forum[2] (Wright 2006, p. 551). Few exceptions of studies critically considering the role of the moderators in the experimental settings, some of which even designed primarily for evaluating the moderator and different moderation styles exist (Fulwider 2005; Pierce et al. 2008; Wright 2009; Farrar et al. 2009; Park 2012; Spada and Vreeland 2013, Sanchini et al. 2020).

On the same line, as noted by Landwehr (2014), one of the possible explanations why moderators are uncritically adopted in deliberative experiments, is that, with the exception of very specific settings in which moderation does not appear strictly necessary (e.g., cold deliberations with limited participants), carrying out deliberation without moderators is practically impossible. And, if the role of moderators is essential, then investigating its legitimacy and effects

2 See for example: Steenbergen et al. 2003.

may appear of secondary importance (Landwehr 2014, p. 82). As an example, as Simon Thompson and Paul Hoggett have suggested, complex emotional group dynamics arising within minipublics point to the necessity, for the group, to have in any case someone who leads the discussion. As a consequence, if the moderator acts according to the ideal requirements of deliberation – so as to be non-directive and non-dominant with respect to the other participants – a participant will very likely take a leading position, thus dominating the others. On the other hand, if the moderator exercises a leading position in order to prevent possible forms of domination, the moderator ends up being perceived as excessively dominant and intrusive by the other participants. Through the words of the authors:

> "a non-interventionist 'hands-off' style can lead to domination by more vocal and confident citizens; a more interventionist, 'hands-on' approach that equalises opportunities for voice may be too domineering" (Thompson and Hoggett 2001, p. 359).

Finally, even assuming an interest on this topic, studying the effects of moderation may be difficult in practice. Indeed, as it has been pointed out, potential participants in deliberative settings often decide to be enrolled in deliberative experiments – despite being a time and energy consuming activity – insofar as they are genuinely interested in the practice of deliberation or in the topic under discussion, while they may appear more reticent in participating if they were asked to be tester for an experiment in which the endpoint is to measure a structural element of the deliberation as the moderator (Landwehr 2014).

3. *Which (theoretical and pragmatic) values does moderation promote?*

The previous section has reported some of the most important theoretical as well as pragmatic reasons related to the under-consideration of the figure of the moderator in contemporary political theory and political science literature. What has been shown is that at least some of the reasons for moderator's neglect

may be traced back to the challenges that this figure poses towards long standing principles and values of deliberative theory. In other words, the idea of having a deliberative moderator potentially threaten some fundamental deliberative principles such as equality, neutrality, and non-domination. Conversely, what are the reasons– if any – in favour of introducing a moderator? What are the (pragmatic and theoretical) values lying behind deliberative moderation?

A first answer to this question has been proposed by Stephen Coleman and Jay G. Blumler (2001) who recognise that "free speech without regulation becomes just noise" (Blumler and Coleman 2001, pp. 17-18). Expressing the same concept through a different expression, Landwehr claims that communication is not a self-fulfilling practice, but needs organisation (Landwehr 2014, p. 78). Hence, in non-ideal conditions, group moderation plays a fundamental role in operating the shift from noise to communication, and from unstructured to structured communication – that is, in promoting *deliberation quality* (e.g., Fulwider 2005, p. 3). In other words, no matter what is the specific value promoted, moderators appear as fundamental structuring elements for a high quality deliberation, i.e., deliberation which embeds those ideal values Habermas first and Cohen then attributed to it: equality, reciprocity, internal inclusion, and public-spiritedness, to name only a few.

Although most scholars recognise that moderation somehow ensures high quality deliberation, disagreement exists as to what value is specifically promoted by group moderation. The majoritarian view is the one which ascribes to moderation the promotion of a principle of *political equality*. To illustrate the point, Moore considers the moderator as the figure who leads the discussion and interacts with the other participants, in order to achieve the "'internal' deliberative quality within organized deliberations" (Moore 2012, p. 17). In a similar manner, Smith argues that by establishing rules of conduct and other actions "the facilitators are fundamental to realising political equality in mini-public deliberations" (Smith 2009, p. 87).

Looking at the debate in depth, it becomes clear that the principle of political equality is interpreted here as promotion

of *internal inclusion*[3] (Smith 2009; Gerber 2011; Moore 2012). Internal inclusion has received a twofold interpretation in the literature: as inclusion of people (Young 2000), and inclusion of arguments (Dryzek and Niemeryer 2008). While the former states that a real inclusion occurs if we may ensure that *all the voices are heard* in the debate, including the less mainstream and/or minoritarian ones, the principle of internal inclusion interpreted *as inclusion of arguments* requires that all the arguments present within the debate in favour of and against to a specific viewpoint are explicitly pointed out during the discussion.

Drawing on this distinction, most scholars tend to ascribe to moderators the role of guarantors of internal inclusion of people, rather than arguments.

Smith, for instance, contends that, by encouraging and protecting shy participants and thwarting the too dominant ones, moderation mitigates domination dynamics, ensuring "the fairness of proceedings and equality of voice within minipublics" (Smith 2009, p. 84). Already Fishkin in 1995 claimed that the value of moderation was to prevent discussion domination by white man or typically dominant figures, with an impact on deliberative quality. The importance of including a plurality of voices is stressed by Gerber who argues that moderators are those figures that:

> "should foster balanced participation within the small group discussions and thus make sure that those diverse voices are not only formally present but also *substantively expressed* in the group discussions" (Gerber 2011, p. 1 – *italics mine*).

Whether this substantial inclusion of voices requires a more proactive role by the side of moderators in making these arguments explicit during discussion is open to debate (see §4.1). The majoritarian view states that moderators should safeguard the inclusion of people but not the inclusion of arguments, because otherwise they would loose their impartiality (Landwehr 2014, p. 78). Of the same opinion is Moore, who argues that since there is a danger that moderators exercise a "powerful framing role",

3 On this point see, for instance, Matthias Trénel: "facilitation may serve as an important means for inclusive deliberation" (Trénel 2009, p. 253).

introducing "oligarchic tendencies" in deliberative democracy, inclusion of arguments should not be a task assigned to moderators (Moore 2012, p. 152). Of a different opinion is instead Chilvers, who claims that:

> "those facilitating the deliberative process should have adequate substantive understanding of the issues being discussed while remaining independent and impartial as to the outcomes of the process. For instance, a better substantive understanding may allow a facilitator to intervene in deliberation to ensure fairness" (Chilvers 2008, p. 174).

Fairness as interpreted by Chilvers allows moderators to intervene not only to tame the talkative, but also to ensure that unfilled arguments have the chance to be discussed.

In addition to political equality as theoretical value promoted by moderation, a minority of scholars have also indicated that *reciprocity* and *public-spiritedness* are correlated to effective moderation. As to reciprocity Hoggett and Thompson (2001) argue that careful moderation provides one way in which significant virtues, amongst which the same reciprocity, can be grounded and realised in practice (Thompson and Hoggett 2001, p. 359). Regarding public-spiritedness, Smith stresses how moderators play a role in motivating delegates not only to consider their own neighbourhood's interests, but to develop more solidaristic judgements:

> "Analysis of the practice of facilitation can help in better understanding the way in which often explicitly self-interested motivations are at times transformed into a more public-spirited orientation (Smith 2009, p. 198).

4. *Moderators: functions, moderation styles, and expertise*

4.1 *From minimal regulation to substantive interventions: moderators' functions and skills*

In addition – and strictly connected – to the debate exploring what are the main deliberative values the moderator is supposed to promote, another set of scholarly contributions deals with the question wondering what are the *functions and tasks* the moderator is supposed to perform. Though comprehensive approaches concerning moderator's functions are still scarce, a fundamental distinction may be drawn between what can be defined as "minimal regulation approaches" and "substantive intervention approaches". According to the former, the moderator is supposed to be mainly an invisible figure, intervening only "to ensure rules of civility" (Trénel 2009, p. 254), i.e., that fundamental rules for a basic exchange between participants are respected. Differently, substantive intervention approaches envisage a bolder role for moderators, who are supposed to behave proactively so as to enable that the basic exchange between interlocutors becomes a more structured, balanced, and discursive process among equals.

Before showing practical examples of these approaches, it is important to clarify the connection between these approaches and the deliberative values discussed in the previous section.

Supporters of ideal interpretations of political equality as grounding principle promoted by moderation tend to endorse minimal regulation approaches. This is because interpreting political equality as the principle requiring that deliberation occurs between equals, a priori excludes, in their view, the possibility of a 'special participant', the moderator, equipped with superior role and leadership authority. Accordingly, to ensure the respect of political equality as theorised by deliberative theorists, the moderator should mostly act as an invisible figure and intervene only in case basic discursive rules are infringed.

Of a different opinion are those who support a less idealised view of political equality and believe that equality in real scenarios cannot be obtained just by preventing some dynamics (e.g.,

thwarting dominating participants), but rather requires that also some proactive actions are put in place.

If we consider this distinction through the categories of the already mentioned debate between equality interpreted as internal inclusion of voices and as internal inclusion of arguments, we may observe that those in favour of minimal regulation approaches tend to conceive a role for the moderator as guarantor of internal inclusion of voices, while supporters of substantive intervention approaches are more prone to consider the moderator as the figure who should ensure both internal inclusion of voices and arguments.

Another way present in the literature to frame the distinction between minimal regulation and substantive intervention approaches is the so called *"active" and "passive" moderation* (Smith 2009; Farrar 2009; Sanchini et al. 2020). Although there is no unique way of interpreting such a distinction, in passive moderation, the moderator does not properly interact, but only intervene in order to establish basic/ground rules supposed to guide group interaction. Differently, in active moderation, the moderator actively interacts with participants, not only to minimise domination dynamics, but also to create a cohesive group atmosphere, help participants better refining their positions, and even, in specific cases, report arguments that were not reported by participants themselves, in order to have a comprehensive picture of the issue under debate. Since in passive moderation the moderator presents a lesser involvement, the behaviour of moderators in this first setting is rather homogenous. Differently, a high variation exists regarding the way in which active moderation is theorised and conducted. However, since very few people have tried to theorize the behaviour of the moderator, there are no standardized guidelines, but only preliminary indications.

One of the first attempts to devise essential steps on how to carry out group moderation, though in a slightly different setting than typical deliberative *fora*, can be ascribed to Erin Anderson and Thomas S. Robertson (1987). Amongst the functions attributed to the moderator, they include: *i*) selection of participants and preparation of the setting; *ii*) definition of the goals of the session; *iii*) establishment of facilitative norms that will guide and encourage group interaction (e.g. honesty, non

judgemental acceptance of others, appropriate self-disclosure); *iv*) development of cohesive group climate (cohesiveness); *v*) creation of an independent interactional network so as to allow the group become autonomous[4]; *vi*) examination of group processes, interpreted as ability to conceptualise what discussed (Anderson and Robertson (1987, pp. 144-147).

A more recent attempt to provide some essential steps as to how conducting deliberation is the so-called "process talk" theorized by Jennifer Stromer-Galley (2007), according to which what moderators should do during the deliberative sessions is to go through the following steps: first, prompting quiet participants into speaking while curtailing the talkative, asking participants to clarify some possible controversial features, periodically summarizing the discussion, asking whether participants agree or disagree with a specific position, finally intervening in case of conflicts between participants (Stromer-Galley 2007, p. 13). As declared by the same author, the *process talk* was elaborated by combining the theoretical literature on deliberation and the empirical literature on small groups, deliberation, online political talk, and conversation analysis (Stromer-Galley 2007, p. 18).

A more gradual and well-systematized approach has been recently proposed by Landwher (2014). In her seminal chapter *Facilitating deliberation: The role of impartial intermediaries in deliberative mini-publics*, she indicates five tasks that she attributes to moderators broadly understood (in her phrasing "intermediaries") corresponding to five different functions moderators may fulfil in deliberative minipublics. According to Landwher, depending on the context as well as the goal of the specific deliberative setting, the moderator may be asked to perform one or more of these tasks. Overall considered, these tasks show all the different steps characterising group moderation, from minimal regulation to significant interventions.

The first task – "constitutionalise deliberation" (Landwher

4 "The facilitator relinquishes responsibility to the group so that a leader dependent network is not maintained […]. The facilitator needs to recognise that premature execution of this function is antithetical to the development of group cohesiveness" (Anderson and Robertson 1987, p. 147).

2014, p. 79) – may be performed by moderators and organisers as well, since it deals with the organisation of the deliberative event (e.g., invite participants, choose the topic under debate) and its institutionalisation. This means also establishing "conversational maxims" or "constitutive rules of reciprocal interaction" (Landwher 2014, p. 79).

The second task – "enforcing procedural rules" (Landwher 2014, p. 79) – corresponds to what I referred to as "minimal regulation approach". Here the moderator is required to enforce procedural rules. In Landwher's account, this general expression covers different activities, spanning from more impersonal (e.g., admitting participants to the floor) to more proactive tasks (e.g., "banning insulting contributions", "preventing violence").

Tasks three, four and five correspond instead to different versions of what I referred to as "substantive intervention approaches".

Through task three – "rationalising communication and keeping emotions at bay" (Landwher 2014, p. 80) – the moderator safeguards rational argumentation as the privileged form of discussion in the deliberative setting[5]. To this aim, several strategies may be put in place, from explicit rejection of emotional or inappropriate contributions (e.g., "this is not an argument"), to exhortations (e.g., "let's try not to be too emotional"), to rephrasing personal stories into general arguments (e.g., "this may teach us that…"). In task four, the moderator guarantees that internal inclusion of voices and pluralistic argumentation are respected[6]. Finally, when deliberation is "goals-oriented", moderators has also to perform task five – "summarising, aggregating, and decision-making" (Landwher 2014, p. 81) – which means defining the issue at hand,

5 Regarding this task, see footnote 6, Chapter 2. However, rational argumentation remains as the mostly legitimate discussion form where recommendations to become inputs to legislative processes at the political macro-level.

6 As already reported, while for some scholars, Landwher included, moderators should safeguard the inclusion of people but not the inclusion of arguments, otherwise they would not be anymore impartial, for some others such impartiality is instead only safeguarded if inclusion of arguments is also respected (Dryzek and Niemeryer 2008).

keeping time and schedule, summing-up results, and trying to find an agreement.

4.2 *Moderators' expertise: only procedural or also substantial?*

A final point on the normative debate over group moderation is the question regarding what kind of expertise should moderators possess in order to realise the aforementioned functions. The question is whether moderators should only possess a processual/procedural expertise in facilitating deliberation, or also a substantive technical expertise in the topic of deliberation (Moore 2012, p. 152).

Procedural expertise is defined as the expertise in conducting deliberations. Different authors propose different accounts of procedural expertise, which all include: regulation activity (i.e., ability to keep the group focused on the group goal), verbal facility (i.e., ability to communicate clearly), active listening (i.e. understand what is explicitly communicated within the group), ability to make connections and links between arguments and positions, pointing out similarities and differences, and to synthesise them; ability to interpret both verbal and non-verbal statements; etc. (Anderson and Robertson 1987, pp. 149-153). Although most scholars consider procedural expertise as a necessary requirement for group moderation, therefore pushing towards rethinking moderators as professionals, a minority of scholars have instead criticised the professionalisation of expertise, showing potential threats related to this practice (Rose 1999; Lezaun and Soneryd 2007; Laurent 2009). Their argument is that professional moderators are nascent "technologies" for producing new kinds of truth – "certified public opinions" (Lezaun and Soneryd 2007) – to serve the purposes of government (Moore 2012, p. 153).

In any case, the mostly controversial question is whether deliberative moderators should also possess a *substantive expertise*, that is, a technical expertise in the subject/topic of deliberation. As pointed out by many scholars, that there should be some expertise throughout the course of deliberation is unquestionable. Indeed, since a good deliberative exchange of reasons cannot depend on falsehoods, participants have to be informed on the issue that has

to be discussed in the deliberative session. Moreover, since most of the topics under debate are complex issues, some sources of expertise should be granted. Are the provision of informative material and/or the presence of panels of competing experts sufficient, or is the expert moderator an added value in that regard? The question is therefore what the best strategy is for enabling participants to acquire the necessary substantive expertise to properly interact among each other as competent interlocutors. As mentioned in previous sections, since the moderator's substantive expertise is strictly related to issues of neutrality and equality, the question is open to interpretation.

Moore (2012), for instance, rejects the idea that moderators should be also substantive experts due to a principle of informational equality. In his words:

> "facilitation involves the challenge of introducing a level of informational equality and ruling out obvious falsehoods, without introducing deliberative actors who have far more epistemic authority than the other participants, and without having a vested interest" (Moore 2012, p. 152).

Chilvers (2008), on the other hand, although having observed, by means of qualitative studies, that moderators' commitment is rather to the practices of deliberation and public engagement, than to the content of deliberation, nevertheless claims that such substantial expertise may appear necessary in order to ensure equal representation of a plurality of views. Supporters of both views agree on the idea that, ideally, these two roles (procedural and substantive expertise) should be separated, at least in time if not in person, though such separation appears difficult to be realised in practice (Krantz 2003).

5. *Intermediaries: preliminary results from empirical investigation*

Although a systematic exploration of the figure of the moderator from a theoretical and normative standpoint is largely absent in the literature, a few attempts have nevertheless been made in order to study this figure in deliberative contexts in depth. Within this

literature, the vast majority of studies investigate, from different standpoints and drawing from diversified approaches, various aspects of the so called "moderator effects", namely what are the effects following from the introduction of moderators – neutral or non-neutral, active or passive, with different styles – on deliberative processes and outcomes.

Studies investigating the moderator effects are designed as either field experiments or lab experiments. While field experiments or field studies attempt to "simulate as closely as possible the conditions under which a causal process occurs, the aim being to enhance the external validity, or generalizability, of experimental findings" (Gerber and Green 2011), lab experiments or lab studies try to isolate the effect under consideration in controlled conditions so as to ensure a high internal validity that may allow causal claims (McDermott 2002).

Moreover, most (field or lab) experiment-based studies intentionally employ *non neutral* moderators, in order to mimic dynamics occurring within real world settings (Spada and Vreeland 2015). A minority of studies explore the role of neutral moderators, some of which in controlled conditions.

Within this literature, most experiments investigate the moderator effects in face-to-face deliberations, with only a minority of papers focusing on the role of moderators in deliberative online settings (Edwards 2002; Wright 2006; Rhee and Kim 2009).

Finally, a minority of studies (Mansbridge et al. 2006; Chilvers et al. 2008) employ qualitative methods, mainly semi-structured interviews, to investigate the moderator effects as well as other aspects (e.g., fundamental characteristics of a proper moderation) as reported by moderators themselves. In other words, far from a priori establishing preliminary hypotheses to be verified or falsified through controlled and objective measures, these studies are aimed at considering the subjective perspective, often neglected, of professional moderators.

Section 5 is structured as follows. In the first subsection, I report results from studies investigating the role of moderators and moderators' effects through (field or lab) face-to-face deliberative experiments (§5.1), starting from studies employing non neutral moderators (§5.1.1), then analysing studies employing neutral

moderators (§5.1.2). In the second subsection (§5.2) I report results from studies exploring the same effects in online deliberations. Finally (§5.3), I summarise results from Mansbridge and Chilvers studies reporting the viewpoints of moderators themselves.

5.1 *Evidence from (field or lab) face-to-face experiments*

5.1.1 *Non neutral moderators*

Moderators may be unneutral in different respects, and to different degrees. Moderators may behave in non-neutral ways by explicitly declaring themselves in favour of one perspective over another, but also by showing bodily gestures which may suggest their preferences.

One of the first works exploring the role of non-neutral moderators in a field experiment is the study carried out by Macartan Humphreys, William Masters and Martin Sandbu (2006). They analyse the results of a national deliberation on country-wide economic priorities organized by the UN Development Program in São Tomé and Príncipe with the aim of investigating the extent to which participatory processes are vulnerable to manipulation by political elites, who may act as moderators in real deliberative settings. Accordingly, their field experiment was designed with the primary endpoint of exploring whether moderators can have a radical impact on the outcomes of deliberation. Moderators in this study had a twofold role, acting as "team leaders" (labelled as: "moderadores") and/or "discussion leaders" (labelled as: "facilitadores"), therefore playing both an informational role during the plenary sessions, and a discussion leader role during the group deliberations. Moderators were drawn primarily from two sources: government services and civil society organizations, and were selected to ensure a gender and age balance. However, they were not representative of a specific demographic grouping. As main result, Humphreys and colleagues find a positive correlation between the positions held by discussion leaders and those that resulted from the discussions that they led, therefore showing that group responses are correlated with the preferences of moderators (Humphreys et al. 2006, p. 17).

Another important study has been conducted by Ju Yeon Park

(2012). Through a sophisticated lab experiment, he explores the correlation between moderators' (declared, undeclared, or denied) expertise and their persuasion capacity, the latter defined as "one person's successful attempt to change the beliefs of another" (Lupia and McCubbins 1998, in Park 2012, p. 9). In particular, Park's study investigates whether non neutral moderators (here defined as actors allowed to support one position over another for three time during the discussion) play a persuasive role towards participants, leading to participants' opinion shift, and whether this effect is related to perceived moderator's expertise. This research question has also a practical impact, if we consider that moderators in political science deliberations are often government officials who might be paid by the companies or the government to manipulate deliberation (Park 2012, p. 10). Park's study has three branches, all defined by the presence of a non-neutral moderator, but differentiating as to the expertise component: Group A presents an expert moderator (i.e., the moderator shows participants that he has expertise on the given issue by explicitly identifying himself as a professional); Group B presents a moderator without expertise signal (i.e., the moderator does not say anything about his/her expertise); Group C presents a non-expert moderator (i.e., the moderator explicitly declares that he/she does not have any expertise on the issue to be debated). Drawing on social psychology literature, Park's main hypotheses are that: (i) participants are more likely to be persuaded by a moderator that shows expertise than by a moderator that declares no-expertise; (ii) participants are likely to build a prejudice that their moderator has policy expertise even though policy expertise of moderators is neither explicitly mentioned nor signalled (Park 2012, p. 10). Both hypotheses were confirmed: results show that greater expertise correlated to a higher persuasion, and that participants tend to have a "prejudistic bias" towards moderators. This means that, moderators are generally considered more knowledgeable about the policy that other participants, because of their role in moderating deliberation, no matter what the moderator declares about his/her expertise.

Deeply correlated to Park's study and starting from a similar research question is the study conducted by Spada and Vreeland (2013), whose methodology was inspired by Park's (Spada and

Vreeland 2013, p. 4). Their study explores whether the alleged neutrality that moderators possess according to deliberative democratic theory is respected in non-ideal deliberative settings. Because of their interest in real-world settings, their experimental design is a robust controlled field experiment, with two branches: the first branch presents neutral moderators (i.e., moderators did not express their preferences and were not entitled to make use of body language), while the second branch presents non-neutral moderators (i.e., moderators were asked to express their preferences, also making use of body language). As main study finding, Spada and Vreeland discover that when moderators intervene in favour of one option over another, they can have a significant impact on deliberative outcomes (Spada and Vreeland 2013, p. 3).

5.1.2 *Neutral moderators*

That non neutral moderators may have an impact on deliberative outcomes appears in line with our own intuitions. Less intuitive – and therefore more challenging – is the question asking whether *neutral* moderators may have an impact on participants preferences. What does neutrality mean in this context and to what extent moderators may actually be neutral figures depends on whether we interpret neutrality as a "thin" or "thick" notion. In general, moderators are considered acting as neutral figures if they do not explicitly express a preference, either verbally or by bodily gestures, regarding the topic under debate. If, differently, neutrality is not interpreted as impartiality (i.e., the moderator does not endorse any position), but as equality (i.e., the moderator does not have a privilege position but is a peer amongst peers), then such neutrality appears more difficult to realise. Following this reasoning, in a seminal contribution, Levine and colleagues claimed that, although moderators are meant as neutral professional figures able to help participants to work through a fair agenda, they cannot be fully democratic and deliberative agents within minipublics (Levine et al. 2005). A few years before Levine's work, Dennis J. Devine, while referring to a quite different context, argued that within juries, in which the final aim is to reach a decision, the moderator appeared to have the first and the last word in the group

(Devine 2001). That the mere fact of speaking first and closing the debate may threat moderator's neutrality is open to interpretation.

Leaving for a moment aside the debate regarding the alleged moderators' neutrality, a common interest exists in the question wondering whether apparently neutral (or at least declared non unneutral) moderators may have a positive impact on deliberative process and outcome, thus improving the quality of deliberation. Already in 1995, Fishkin expected trained moderators to prevent dominations dynamics, with a positive effect on deliberative quality and participants' knowledge acquisition[7].

An interesting experiment investigating the alleged moderators' usefulness with "slightly consequential outcomes"[8], is the experiment described in Fulwider's paper (2005). Traditional outcomes to measure moderators' positive effects are knowledge increase and opinion change. In addition to these criteria, Fulwider's study measures also participants' perception of the fullness and fairness of deliberation, and participants' personal satisfaction with deliberation (Fulwider 2005, p. 3). Fulwider sets his study on two contrasting hypotheses: i) the moderator's presence does not significantly affect participants' ratings of deliberative quality, nor does it significantly affect knowledge increases or opinion change; and ii) the moderator's presence significantly affects participants' ratings of deliberative quality, and also significantly affects knowledge increases and opinion change. To test these hypotheses, he enrols around 100 participants. Deliberations were conducted according to the standard Deliberative Polling® design (see Ch. 2, §3.3.2), and presented two branches: moderated and unmoderated. A five-item deliberative quality scale was created

7 On the same issue, see also Ackerman and Fishkin 2004.

8 Fulwider distinguishes between: deliberations with "highly consequential", "moderately consequential", and "slightly consequential" outcomes. Deliberations with highly consequential outcomes are deliberations where the deliberative group makes a binding decision that affects other people; whereas moderately consequential outcomes are deliberations where the group acts as an advisory panel for government officials, who are more likely than not to implement the group's recommendations; finally slightly consequential outcomes are those where deliberative groups simply state their opinions (Fulwider 2005, pp. 4-5).

with five Likert scale agree/disagree statements[9]. As to study results, no significant differences in knowledge gain and/or opinion change was detected. However, a significant mean difference on a deliberative quality measure was found in the instance "Important points were left out of our discussion because some people didn't get the opportunity to speak": here, participants in unmoderated groups had a less positive reaction than their moderated peers to the deliberation's provision of equal chances to be heard. What Fulwider's study seems to show is therefore that the presence of neutral moderators increases internal inclusion, thus leading to an improvement of deliberation quality.

A quite similar result is reported by Trénel (2009) who discusses the results of two field experiments[10] carried out a few years earlier, which combine neutral moderation with different moderation styles (basic and advanced), and professionalisation of moderators, and test these different combinations on deliberative outcomes. In these two experiments, participants are randomly assigned to either of two branches, which have in common the presence of a neutral moderator (labelled here as "facilitator"), but differ in relation to the function performed by the moderator herself. While in the "basic facilitation condition" moderators have the task "to keep participants focused on the agenda and ensure rules of civility" (Trénel 2009, p. 254), thus remaining invisible for the most part of the deliberative process, in the "advanced facilitation condition" moderators are professional figures whose task is also to "balance participation, create a respectful climate, and stimulate, clarify, and summarize discussions" (Trénel 2009, p. 254). What experimenters found is a reduction of internal exclusion in the advanced facilitation condition, in particular with respect to two specific populations: non-white participants and woman. Active moderation thus correlates with internal inclusion' improvement.

9 "This discussion was fair to all participants"; "I felt comfortable talking in my group."; "I think other people in my group felt comfortable talking."; "One person or a small group of people dominated the discussion."; "Important points were left out of our discussion because some people didn't get the opportunity to speak.".

10 Pyser and Figallo 2004; Figallo et al. 2004.

That well-trained moderators may improve the quality of deliberation by reducing power inequalities is also shown by the study of Jason L. Pierce and colleagues (2008). According to the authors, one of the main challenges deliberative democracy is asked to face is that the inequalities of power stemming from status differences may discourage the sort of equality reported upon and generally envisioned by deliberative democrats, the former interpreted as the principle which "grants equal consideration to everyone's preferences and which grants everyone appropriately equal opportunities to formulate preferences on the issues under consideration" (Fishkin 1991, pp. 30-31). Being interested in the inequalities occurring by differences in status, Pierce and colleagues set up a lab experiment enrolling three categories of agents with a different status: students, faculty, and administrators. Starting hypotheses include: (*i*) that status differences present prior to the forum decrease as a result of the deliberation (the so-called "deliberative hypothesis"); (*ii*) that the epistemological authority varies among participants, and is defined in part by status (the so called "status hypothesis"); (*iii*) that well-trained and neutral moderators may have an impact in the reduction of status inequalities within deliberative settings (the so called "moderator hypothesis"). What they found is that deliberation itself matters, since "merely bringing individuals together in a deliberative setting fostered greater epistemological authority" (Pierce et al. 2008, p. 25). This result proved true for students, faculty, and administrators alike, although students tended to shift more than faculty and administrators. Moreover, neutral and well-trained moderators appeared to foster deliberations characterized by broader participation and more equal treatment of opinions than their non-neutral counterparts, regardless of group composition.

However, contrasting results were obtained through the experiments carried out by Cynthia Farrar and colleagues (2009), whose aim was to measure group's effects in three large scale field experiments. Previous evidence on group's effects is limited: Solomon Asch's study (1948) showed that pressures to conform distort subjects' factual reports; on the same line, Tali Mendelberg (2006) analysis reports that "group composition variables shape the outcome just as powerfully as do individual variables"

(Mendelberg 2006, p. 12). The shift of preferences occurring as a consequence of group's effects may happen because participants are exposed to persuasive information arguments – which leads to long-lasting opinion change – but also because of the desire of social acceptance (Farrar et al. 2009, p. 616). Actually, group's effects affect deliberation in a twofold manner, since it creates also a double disadvantage for individuals possessing minoritarian views: "Not only are their views unlikely to prevail in majority decisions, but minorities will also be pushed into altering their stances by pressures to conform to norms set by majorities" (Farrar et al. 2009, p. 616). In order to properly investigate group's effects, Farrar and colleagues studied moderators in small group discussions, employing two different moderation styles, one more active, and one more passive, following a pattern similar to that reported in Trénel's paper. In the "active setting", moderators emphasized the importance of promoting involvement by all participants, whereas in the passive one they did not intervene in the discussion at all. No corrective role by the side of moderators is reported in either of the two branches. Although impartial observers presided over the two settings to be sure that the two different experimental scenarios were fully respected, the authors did not observe statistically significant differences either in the transformation of preferences, and in the legitimacy as perceived by participants themselves (Farrar et al. 2009).

5.2 *Evidence from online experiments*

A more recent research line investigates the effects of moderation in online deliberative settings[11]. Though quite recent, online deliberation, defined as the sum of research investigations devoted to the study of deliberative processes with the use of information and communication technologies, is already an established academic field with a devoted scholarly community (Davies 2009; Strandberg and Grönlund 2018). Although there

11 For a comprehensive overview see, for instance: Davies, T., & Gangadharan, S. P. (eds) (2009). Online deliberation: Design, research, and practice, Center for the Study of Language and Information.

is some scepticism that deliberation may be carried out through communication and information technologies in a way that resembles face-to-face deliberations, online deliberation presents some important pragmatic and theoretical advantages.

From a pragmatic standpoint, online deliberation imposes smaller costs than its face-to-face counterpart, with respect to the budget needed to set up these events, time required to perform deliberations, but also psychological commitment, both by the side of organisers and attendees.

From a theoretical viewpoint, extensive literature exists on the merits of online deliberation, among which inclusiveness, diversity, and minimisation of social pressure are paramount. Regarding inclusiveness, "the internet allows for many-to-many communication, transcends geographical confines, grants users unprecedented control over content, and allows them to easily seek out and share information" (Baek et al. 2011, p. 366). Therefore, it enables greater reach and increased representation than its face-to-face version (Papacharissi 2002). Regarding diversity, conceived as fundamental pillar of deliberative theory and practice, on the one hand online deliberation allows participants to deliberate with people all around the world, without being constrained to debates with those who live nearby (Stromer-Galley 2003), while also bringing together individuals who share the same interests but differ with regard to socioeconomic status or political viewpoints (Wojcieszak and Mutz 2009). Finally, regarding social pressure, insofar as anonymity and absence of non-verbal cues reduce stereotypes (McKenna and Bargh 2000), also disadvantaged individuals may be willing to participate, and minority and dissenting views are more likely to be expressed. Online deliberation minimizes the tendency of judging citizens' preferences based on factors other than the validity of arguments themselves (Blader and Tyler 2003).

However, since new technologies do not deterministically produce idealised conditions (Wright 2006, p. 550), within the – already vast – literature on the effects of online deliberation, some studies[12] have focused on the role of the (online) moderator,

12 I am fully aware that the Chapter does not offer an inclusive and

specifically exploring whether moderators promote or inhibit deliberative values.

Undoubtedly, one of the first and mostly relevant contribution on this topic is the study carried out by Arthur R. Edwards (2002). Drawing from the well-known tension in deliberative theory between equality and leadership, he argues that a quite similar tension may also be found in the libertarian tradition of the Internet. Here, moderation is considered with some suspicious insofar as it is viewed as conflicting with the paradigm supporting free speech and unrestrained communication – namely the "free speech approach". Already in 1998, Roza Tsagarousianou and colleagues considered "the 'moderation versus freedom of speech' dilemma as a central issue in electronic democracy, and, as yet, an unresolved one" (Tsagarousianou 1998, in Edwards 2002). Through the analysis of five cases of Dutch Internet discussions about public issues involving moderators, Edwards shows that "the 'free speech approach' towards moderation, although fully legitimate in itself, is too narrow in relation to what moderation involves in practice" (Edwards 2002, p. 4). According to Edwards, online moderators cannot be conceived only as "filters" of information, insofar as their role is much more complex. In particular, in online settings, the moderator may be better defined as an "emerging democratic intermediary", with three functions (strategic, conditioning and procedural), potentially fulfilling a role within "the information and communication infrastructure between the citizenry and public administration" (Edwards 2002, p. 16). Edwards concludes that, as long as moderators act as neutral figures, ensuring an independent or "third party moderation", moderators positively affect deliberative infrastructure, eventually contributing to the "deliberative quality of the discussion, notably its interactivity and openness" (Edwards 2002, p. 4).

Starting from the premises of Edwards's study, but trying to overcoming its limits, is the work of Scott Wright (2006, 2009). Wright focuses on the relationship between online moderation

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exhaustive analysis of all the papers appeared in the literature on the topic, but the hope is that the selection reported here is representative of the main types of studies as well as moderation styles.

and (justified or unjustified) censorship, and its effects on online deliberation. Persuaded that "there is a fine line between moderation and censorship" (Wright 2006, p. 553), but also that the potentially censorial activity of moderators should not be *a priori* demonised as there may be circumstances in which online censoring is legitimate[13], Wright investigates the role of online moderators in two case studies of British government-run online discussion *fora*. These are the "Downing Street website", a large-scale moderated discussion forum, and the "E-democracy Forum", a smaller, policy-linked moderated discussion forum. Building on this analysis, he questions one of the conclusions of Edwards's study – that there is no unique model of online moderator, but that different models may be equally legitimate depending on the setting and aim of the online deliberation. In particular, he elaborates two models of online moderation: "content moderation" and "iterative moderation". While in "content moderation", moderators have the role of censoring the content, through an already set of rules established by the institution who organised the deliberation, in "iterative moderation" the role of moderator is far more active. Here,

> "the moderator brings both new citizens and political institutions into the discussion; encourages existing users to respond; moderates the content of messages, attempting to maintain civility, where possible, by persuasion and not censorship; frames the debate and sets sub-topics; provides feedback to the institution; and participates in the debates" (Wright 2006, p. 556).

As to the evaluation of these two models, Wright shows that iterative moderation can have a positive role "in promoting both the levels of discussion and bringing new users from outside" (Wright 2006, p. 563) producing democratic benefits, provided that deliberation takes place in small discussion fora. Differently, in large-scale discussion fora, content moderation seems to be

13 For instance, Wright reports that "in the online constitutive (and/or self) censorship is arguably weakened by the (often falsely) perceived anonymity: the moral and social cues that shape speech acts are missing, and this gives people greater freedom to use profanity" (p. 553).

more effective in ensuring high quality deliberations, provided that the censorial role is "enforced by an independent person or group following detailed (and openly available) rules set by the institution in negotiation with a range of stakeholders" (Wright 2006, p. 563).

That the mere presence of online moderators produces a censorial, or filter, effect in participants' activity is shown also by the field experiment conducted by Mooweon Rhee and Young-Choon Kim (2009). Designed as a two branches-controlled experiment comparing a moderated[14] and a non moderated condition, they noticed that the presence of a moderator correlates with a decrease in the number of message posted: "participants in the moderated condition seemed to be more cautious than their unmoderated counterparts in writing about the election" (Rhee and Kim 2009, p. 229). However, deliberation in the moderated harm was perceived of a higher quality process: "participants in the moderated group wrote messages that were read more often than those written by counterparts in other groups" (Rhee and Kim 2009, p. 229).

Studies investigating the role of online moderators mostly draw on experiments carried out in mature democracies, such as US (Fishkin 2011) or western European countries (Macintosh 2004). Here, although there is a theoretical interest in the study of moderation, the censorial role of moderators may appear more as an experimental artifice than a real threat. Different considerations apply if online deliberation is conducted in less mature democracies. As example, we may refer to the recent study conducted by Simon Perrault and Weiyu Zhang (2019), who carried out an online policy deliberation through a participatory platform[15] in Singapore. This

14 Moderators fulfilled a management and regulation role, "providing supplementary information and other materials collected from mass media or the Internet on a regular basis, posting rules and etiquette guidelines for the discussion, and sending 'warnings' to ill-mannered participants" (Rhee and Kim 2009, p. 228).

15 Ann Macintosh distinguishes between three types of deliberative platforms: "informative", "consultative" and "participative". "Informative platforms" are used by governments to produce and deliver information to citizens. "Consultative platforms" are also structured so

study aims to analyse the combination of both moderation and opinion heterogeneity on the perceived deliberation experience of participants. Designed as a three phases process[16], the authors found that moderation had an impact on participants' perception of deliberation. In particular: "lower levels of moderation lead to better perception of validity claim, perceived legitimacy of deliberation for policy making, and suggests that it may also affect procedural fairness" (Perrault and Zhang 2019, p. 10). This seems to suggest that, at least in "authoritarian democratic" settings, moderations should be kept to low levels, simply asking moderators to prevent participants from carrying our inappropriate behaviours.

5.3 *Moderators perspectives: qualitative evidence*

As mentioned in the introduction of this section, a minority of studies employ qualitative methods, mainly semi-structured interviews, to investigate the viewpoint of moderators, asking the same moderators what are the elements for successful deliberation as well as the norms that should guide moderators' conduct.

Mansbridge and colleagues (2006) set up a study aimed to identify the norms implied in contemporary deliberative practice. Their proposal is that the code of conduct of moderators (labelled here as "facilitators") may be inferred from the experience of moderators themselves in their consideration of what they regard as "successful deliberation". To this end, they asked ten professional English-speaking Caucasian male moderators to listen to the tapes of ten small group deliberations on public issues

as to enable citizens to provide feedbacks. "Participative platforms" allow citizens to actively engage in defining the process and content of policy-making. Perrault and Zhang add to the list also "aggregation platforms" that aim to present different opinions and help users locating their own on preferences within the spectrum of opinions, eventually refining them.

16 A pre-deliberation phase aimed at creating groups with heterogeneous opinions, a real deliberation phase consisting in the experiment, and a post-deliberation phase where participants' experience on the whole process was inquired.

from six anonymous organizations in the United States, identifying "good", "very good", "problematic", or "very problematic" interactions. This preliminary step was intended to establish the set of implicit and explicit norms adopted by moderators in their personal evaluation of deliberation. This would have then layed the basis for the identification of the necessary steps for moderators' intervention during the deliberative sessions. Norms individuated by professional moderators were the followings: i) *participants' satisfaction*, i.e., moderator's capacity to maintain a positive atmosphere within the group, and ii) *group productivity,* interpreted as making progresses on the group's task. According to Mansbridge and colleagues, in order to satisfy the first requirement, the moderator is supposed to prevent domination's episodes and promote free flow (Mansbridge et al. 2006, pp. 13-14), whereas the second requirement appears satisfied when the moderator provides the group with clear instructions, explains the mission of the group prior to the beginning of deliberation, ensures that the group is properly prepared, keeps the group focused on the task, and finally writes down statements on which all the people within the group agree (Mansbridge et al. 2006, p. 15). It is important to point out that these norms *de facto* overlap with two most relevant goals of almost any group discussion: satisfaction and productivity.

A similar study procedure is followed by Chilvers (2008) who infers what successful deliberation – and, within it, successful moderation – is by collecting the viewpoints from three different actors: "participatory process experts" (within which we may find also moderators) who design, facilitate, and evaluate participatory processes; "scientific experts", who may be present in deliberative settings as "independent" expert witnesses or collaborative analyst; and "decision makers" who commission, sometimes take part in, and consider the outcomes of analytic-deliberative processes (Chilvers 2008, p. 163). Evidence reported in Chilvers' paper come from two different studies[17]. Study results regard

17 Regarding the first study, in-depth interviews were conducted as part of an Economic & Social Research Council/Natural Environment Research Council (ESRC/NERC) Interdisciplinary Research Studentship; the second study was a Participatory Methods Workshop.

information and deliberation, the latter analysed both in its process and outcome.

As to *information*, results suggest that a successful deliberation is the one that should first and foremost respect a principle of "understandability", according to which "any information provided should be appropriate, meaningful, and understandable from the perspective of those participating" but also "clear", "simple", and presented in a language that is "participant's own" (Chilvers 2008, p. 170). Information should be also complete, i.e., "should faithfully represent the range/diversity of views that exist on the issue being considered" (Chilvers 2008, p. 171). In other words, proper information is, for moderators, strictly related to the principle of internal inclusion of arguments (Dryzek and Niemeryer 2008). Finally, "information provided within the process should be responsive to the needs of participants" (Chilvers 2008, p. 171).

As to *deliberation*, results suggest that, though recognizing the importance of consensus-reaching, the first outcome of deliberation should be having all the alternative viewpoints represented, once having exposed underlying assumptions, and explored uncertainties (Chilvers 2008, p. 173). Therefore, process rather than outcome seems to be the most important element of deliberation itself. In addition to inclusion and fair representation, deliberation should be highly interactive and symmetrical, the latter interpreted in line with the provision of "equal space for the claims of citizens and specialists to be located, contested, and challenged" (Chilvers 2008, p. 173). Symmetry between participants does not *a priori* prevent the presence of moderators, being the latter guarantors, in practical settings, of equal space for claims and contestations by all the parties involved. Interestingly, and differently from most theoretical contributions on the topic, moderators interviewed by Chilvers, argued that moderators should also possess substantive expertise. In their view, such an expertise would not impact on deliberative outcomes: moderators' impartiality and respect for equality is not threated by their substantive expertise. Differently, possessing "a better substantive understanding may allow a facilitator to intervene in deliberation to ensure fairness" (Chilvers 2008, p. 174).

6. *Conclusion*

In recent scholarly debates a crucial role in ensuring high quality deliberation is fulfilled by those the so-called "intermediaries of deliberation", namely, those figures leading the discussion and interacting with participants in small group discussions, better known under the label of "deliberative moderators". As extensively shown in this chapter, moderators profoundly vary in relation to personal and professional characteristics, functions performed, and moderation style. Such a heterogeneity depends on the specific deliberative institutional arrangements, the aim of the deliberative process, and the values moderators are asked to promote. Despite their well-recognised importance towards the achievement of good internal quality deliberation, moderators have been largely under-investigated, both theoretically and empirically. This chapter has been aimed to fill this gap, by providing a comprehensive, though not systematic, review on the topic.

Drawing on evidence collected in Chapter 3, Chapter 4 will present the results of a large-scale laboratory experiment, specifically designed to isolate the moderator's effect, and to investigate whether, and to what extent, different moderation styles impact on the outcomes of deliberation and, in particular, on participants' moral preferences. In addition, drawing on the normative literature regarding the bioethical expert in the public arena, as well as the characteristics ascribed to active moderators in political theory and science literature, this study will provide useful insights for elaborating further considerations on the role of the public bioethical expert.

4.
TESTING THE DELIBERATIVE MODERATOR
A Case Study in Reproductive Genetics

1. *Introduction*

Since the nineties, policymakers and theorists working across several disciplines started to entertain the notion of directly engaging the public in matters of public concern (e.g., Fishkin 1991; Bohman 1998; Moore 2010; Landemore 2012; Neblo 2015). This was accompanied by the attempt to resort to deliberative democracy to make such an involvement effective (Gutmann and Thompson 1996; 2004). Geared towards bringing the core tenets of deliberative democracy into different contexts of the public sphere, the main aim of these deliberative processes – generally defined under the common, albeit variously interpreted (Blacksher et al. 2012), label of "public deliberation" – is that of eliciting citizens' opinions, while also, in some cases, informing policy-making (Abelson et al. 2012).

As shown in Chapter 2, Leveraging upon its intrinsic dialogic nature, some scholars have proposed the integration of deliberation into the realm of public bioethics, which is considered to be a field of bioethics dominated by "value conflict and high pressure for decision and regulation" (Moore 2010, p. 715). In particular, seizing on its capacity to constructively deal with (value) conflicts, deliberation was considered, by some, to be a promising tool for addressing moral disagreements of public relevance (Crawshaw et al. 1985; Bowling, Jacobson, and Southgate 1993; Bowie, Richardson, and Sykes 1995; Gutmann and Thompson 1997; MacLean and Burgess 2010; King et al. 2010; Meagher and Lee 2016).

In parallel, the theoretical proposal of a deliberative public bioethics has been accompanied by the attempt to empirically

test deliberation in the context of public dialogue over ethical issues (Abelson et al. 2003a; Abelson et al. 2003b; Abelson et al. 2012; Abelson et al. 2013). These deliberative experiments have been implemented in different forms – from citizens' juries to national issue forums, and from deliberative opinion polls to participatory budgeting (Abelson et al. 2003a; Goold et al. 2012, p. 24) – and focus on a wide set of ethically sensitive issues, ranging from priority setting in healthcare to the ethics and regulation of (healthcare) technologies (Abelson et al. 2013).

Drawing upon the theory and practice of deliberative public bioethics, the work presented in this chapter has *the overarching goals* to shed light on the figure of the bioethical expert and its role in public bioethics, and – relatedly – to investigate how deliberative democracy may be implemented in a public bioethics context, assuming the principles of deliberative democracy at face value.

This work starts from the dominant view – according to which public bioethics can be considered an exemplary case for practically embedding the deliberative democratic ideals (Moore 2010; Rei et al. 2009) – to contend that, in fact, it is deliberation in its role of managing (value) conflicts, that can be considered a useful tool to be employed in public bioethics' settings.

To this end, together with some colleagues[1], I devised a "validated laboratory experiment" (in line with Abelson et al. 2003a, p. 98), designed according to results obtained through two Preliminary Surveys. The Preliminary Surveys ("Pilot Study 1" and "Pilot Study 2") aimed at defining the topic to be addressed in the main experiment through the analysis of the similarities between the Italian general population and the study population, so as to increase the external validity of the experiment. In order to distinguish the study from the Preliminary Surveys, I will refer to the former as "Main Study".

1 The design and conduction of the experiment was a collective enterprise (see Acknowledgments). Amongst those who had a crucial role in helping me to conceive and/or realize the experiment, I would like to recall here Pier Paolo di Fiore, Paolo Spada, Sarah Songhorian, and Davide Disalvatore.

Specifically, *the endpoint* of the Main Study was to empirically investigate whether, and to what extent, different moderation styles, implemented by different figures – active moderator, passive moderator[2], and observer – would impact upon participants' individual moral preferences and, in particular, on preference shifts. The idea of devising and testing a moderator, a well-established figure within deliberative experiments, albeit underestimated in its impact (Moore 2010), but completely absent in bioethics literature, represents the most relevant novel element in this experiment. As it will be explained herein, we did not intend to measure the mere shift of preferences (Stewart et al. 1994; Coote and Lenaghan 1997; Fung 2006; Fishkin 2011), but rather the shift towards what Hugo Tristram Engelhardt defined as *"the Principle of Permission" (or forbearance)* (Engelhardt 1996), following the rationale explained in §2 "Analytic Framework and Theoretical Background".

This chapter is structured as follows. First, I explain the analytic framework and theoretical background upon which my proposal builds. Then, I present the rationale, design, and metrics of both the Pilot Studies and the Main Study. Next, I present the Results of the Pilot Studies and Main Study. Finally, I analyse and discuss experimental findings in relation to three phenomena: i) the apparent lack of impact of information; ii) the role of time in unmasking deliberative effects, iii) the better appreciation of passive moderation over active moderation.

2. *Analytic framework and theoretical background*

The validated laboratory experiment builds on three analytic strands. First, it draws on political theory, in particular debates regarding deliberative democracy, and political

2 As extensively shown in the Chapter 3, the distinction between active and passive moderation is rather common in the literature. However, despite the same wording, and for the reasons that will be extensively shown in the Discussion section, our connotation of the terms only partially overlaps the ones present in the literature.

science literature, in particular empirical studies and critiques of deliberation in practice, including "deliberative public bioethics" (see Chapters 2 and 3). Moreover, as described in what follows, the theoretical premises fall within the field of theoretical bioethics, while the issues discussed in the experiment, and the broader perspective from which it set out, lay squarely within public bioethics and public health ethics (see Chapters 1 and 4, §2). As to the methodology and experimental design, the experiment is informed by quantitative methodology approaches as developed in the social sciences, but also to frequentist statics as commonly used in clinical research (i.e., clinical trials).

As to the theoretical framework, this should be found in the Principle of Permission. The "Principle of Permission" (henceforth PoP) is a non-substantive negative principle interpretable as "non-interference". In Engelhardt's view, the principle of permission represents the most fitting principle for a "secular bioethics", i.e., the contemporary bioethical reflection characterised by deep moral disagreement, inhabited by "moral strangers", i.e., individuals endorsing different moral views.

By adopting this view, we measured, as the end point of our study, a shift towards PoP[3]. The main justification lying behind this proposal is the following[4]: we argue that this shift is consistent

3 As already noted, the outcome of our study was not the mere shift of preferences after deliberative session. Following Smith (2009) who claims that "in itself, opinion change tells nothing about whether judgments represent *enlightened preferences*" (Smith 2009, p. 95), we believed that the mere opinion change after deliberation cannot be considered proof of the success or failure of different interventions, since transformation of preferences *per se* does not prove that the purposes of deliberation have been met.

4 Actually, there is another reason for adopting a value-laden analysis of the outcome, which is connected with the potential artifact of "inconclusive addition" of the mere shift of preferences. To explain this effect, let us imagine a two-question questionnaire. One individual in the control group (the observed group, in our case) changes her preferences, after the intervention. On one question, she moves one notch towards PoP; on the other, one notch away from it. Her total score would be 2. In another arm of the study, one individual changes preferences moving one notch towards PoP, on both questions. Her

with the purposes that proponents of deliberative democracy have attributed to deliberation itself: *pluralism awareness*, i.e., the awareness that the public arena is a domain dominated by moral pluralism, namely, of what Rawls defines as "the fact of pluralism" (Rawls 1993); *pluralism recognition*, i.e., the fact that moral pluralism characterises the public arena should be recognised and endorsed, and that pluralism-oriented discussions and decision-making strategies to cope with it should be put in place.

Once recognized that deliberation intends to fulfil these purposes, to quantify the shift of participants' preferences towards pluralism awareness and recognition, we considered the shift to be in place when participants replied in line with PoP. Indeed, since PoP, as non-interference, is the condition enabling the simultaneous co-existence of a wider spectrum of substantive positions, this appears to be the principle that better serves deliberative purposes.

So conceived, PoP is the descendant of the Rawlsian liberal tradition, which draws on the acceptance of moral pluralism as an undisputed fact, and on the consideration that permission is the principle that maximises it the most. Accordingly, secular bioethics cannot be regulated by the principle of autonomy, since the latter represents a substantive principle, bound to substantive moral doctrines. Only a non-substantive principle, the PoP, safeguards the simultaneous coexistence of different substantive moral positions dominating the public arena.

To summarise, once recognised that the purposes of deliberation are the awareness and recognition of pluralism, I identified PoP as the best means to serve these purposes and, therefore, that the shift towards this principle represented a

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score would also be 2. In this "inconclusive addition" the "real" effect, i.e., that one individual moved towards PoP, while the other did not, would be lost. In many political science studies, this caveat would not apply, since the choices are binary (agree/do not agree or in favour/against) and the mere shift suffices. In our study, the adoption of a value-laden 5-point scale allowed this possibility (hence our choice to assign a "direction" to the shift). As an experimental proof of this notion, when we reanalyzed our data without considering the direction, all effects were nullified (data not shown).

sign of the success of the deliberation. Accordingly, in this context, claiming that a deliberation is successful if it promotes PoP does not equal the endorsement of any substantive moral stance[5].

3. *Methods*

In what follows, I will discuss materials and methods of the preliminary surveys/pilot studies and the main experiment.

3.1 *Preliminary surveys: Pilot Study 1 and Pilot Study 2*

Pilot Study 1 and Pilot Study 2 consisted in two surveys aimed at defining the topic to be addressed in the Main Experiment through the analysis of the similarities between the Italian population and the Main Study population.

In Pilot Study 1 (Appendix 1), 842 undergraduates from the University of Milan were selected on a voluntary basis. First and second year students from different curricula (Appendix 1A) were enrolled, so as to minimize the impact of expert knowledge acquired during their studies on their responses. The students were asked to complete a questionnaire (Appendix 1B) focused on four topics: i) genetic testing in general; ii) direct-to-consumers genetic testing; iii) genetic testing in the context of reproductive choices;

5 In the specific context from which I draw this analysis – genetic testing employed in reproduction – it is nevertheless important to point out that, for some specific techniques – namely Non Invasive Prenatal Testing (NIPT) – PoP is compatible with different substantive moral views, spanning those supporting the principle of procreative liberty in its different connotations (Robertson 1983; 1985), to those granting the foetus with an unconditional intrinsic moral value. Indeed, performing NIPT may be considered ethically legitimate by supporters of both these views, as the former may draw from very different intentions and lead to very different outcomes. As an example, the decision to perform NIPT can be grounded in the intention of verifying the health of the foetus to decide whether to interrupt the pregnancy or to gain more knowledge in order to be prepared to properly welcome the newborn, even in cases of genetic disorders.

and iv) genetically modified organisms (GMOs). For each topic, participants were asked to express their opinions about three moral statements by choosing from three possible options: "I agree/I do not have a definitive position on this topic yet/I do not agree".

In Pilot Study 2, DOXA, a leading Italian polling organization, administered the same questionnaire used in Pilot Study 1 to a sample of 1,000 Italian citizens (Appendix 2), making use of a CAWI (Computer Aided Web Interview) methodology (Appendix 2). The rationale behind this methodological choice was that CAWI presents several analogies with the modalities of the subsequent main experiment. The two surveys were then analysed in an integrated fashion (Table 1, Appendix 1C; Appendix 3).

TABLE 1: COMPARATIVE ANALYSIS OF PILOT STUDIES 1 AND 2

	Uncertainty rate			Asymmetry rate		
Topic	Students (%)	General (%)	Chi-sq	Students	General	Chi-sq
1	33	14	310	32	14	321
2	19	14	96	39	16	346
3	29	18	120	17	21	50
4	50	27	319	6	16	176

Summary of the results obtained in Pilot Study 1 and Pilot Study 2.

The Column "Topic" refers to the four topics under scrutiny:

1. Genetic testing in general.
2. Genetic testing directed towards consumers.
3. Genetic testing related to reproductive choices.
4. Genetically modified organisms.

For each topic, 3 questions were asked regarding ethical preferences (reported in Appendix 1B). Results are shown as the mean value for the 3 questions in each topic.

Uncertainty rate: percentage of the study population (Students) or of the general population (General) who expressed the preference "*I do not have a definitive position on this topic yet*". Differences between the two populations were evaluated by the Chi-square test (Chi-sq).

Asymmetry rate: This parameter indicates the degree of unbalance between the two extreme opinions in the populations under study. It was calculated by the formula Asymmetry rate=| 50-(A/(A+D)*100) |, where: A is the number of participants who answered "Agree"; D is the number of participants who answered "Disagree". Participants who did not express an opinion ("*I do not have a definitive position on this topic yet*") were excluded. The asymmetry rate can oscillate between 0 (total symmetry) and 50 (total asymmetry). Differences between the two populations were evaluated by the Chi-square test.

In grey, we highlighted the situations in which the study population was considered representative of the general population. Topic 3 represented the instance in which the study population was most representative of the general population, while displaying characteristics of a suitable uncertainty rate (about one third) and a low asymmetry rate. P-values were significant (<0.001) in all comparisons.

3.2 *Main study*

3.2.1 *Rationale and moderation styles*

The second part of our lab experiment (Main Study) consisted in a Randomized Controlled Trial (RCT) design based on the template of a laboratory experiment (Figure 1).

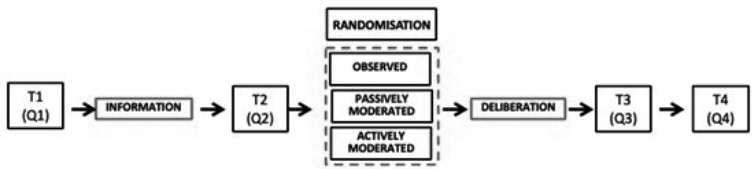

FIGURE 1: Design of the Randomized Controlled Trial (RCT)
The flow-chart of the RCT is shown. Details are in the Main Experiment section of the text. T1, T2, T3 and T4 are the times of intervention at which the questionnaires, Q1, Q2, Q3 and Q4, were administered, respectively.

The overall aim was to observe what happened to participants' preferences after the deliberative intervention and to see whether the deliberative approach devised here led to positions compliant with the purposes of deliberation, in this specific context to PoP

(§2). The RCT was designed to accomplish the aim of challenging various modalities of supervision in the deliberative setting applied to bioethics. To this end, the RCT comprised three arms: i) *Observed*, in which a supervisor was present but silent and did not intervene in the discussion; ii) *Passively Moderated*, with a supervisor acting as a promoter of some "negative" deliberative values[6]; and iii) *Actively Moderated*, with a supervisor acting as a promoter of positive and negative deliberative values. The roles and the rules of engagement of these three figures were precisely defined and the supervisors were extensively trained before the sessions (Appendix 4A). In addition, precise lists of "DOs" and "DON'Ts" were provided (Appendix 4A).

3.2.2 *Experimental design*

For the Main Study, 274 students were enrolled. In line with the results of the Pilot Studies, students were first- or second-year undergraduates from the University of Milan, selected on a voluntary basis. At enrolment, students were only informed of the "bioethics nature of the experiment". Upon arrival, they were received by the experimenter in charge of the study (V.S.), who provided participants with the following information: a) that the experiment consisted of anonymously recording their preferences on the issue of genetic testing in reproduction; b) that the preferences would be recorded repeatedly, upon completion of a number of phases (but the nature of these phases was not disclosed); c) no information was provided as to the rationale, the aim, and the structure of the experiment; d) participants were instructed to be truthful in their opinions and behaviours, since

6 By "negative deliberative values" I refer to those values that try to prevent some group's dynamics from occurring (e.g. interference, domination). Accordingly, these values may be defined as "negative" since, rather than promoting some actions/behaviours, they try to limit and/or impede actions and/or behaviours (e.g. try to limit domination dynamics within the group). Differently, by "positive deliberative values" I refer to those values that, rather than simply limiting some dynamics, try to promote certain additional behaviours which should enable group's dynamics (e.g., promote mutual respect, promote equal consideration, etc.).

there was no expected outcome, no right/wrong answers, in order to exclude and/or minimize "the expectancy effect" (McDermott 2002). Students enrolled received credits; however, credits were not linked to any mandatory course, in order to prevent undue influence.

The study was implemented through the administration of a questionnaire (Q, Appendix 4B) centred on "*Genetic testing related to reproductive choices*", selected through the Pilot Studies. The questionnaire comprised 10 statements that could be answered using a 5-point Likert scale. The same questionnaire was administered at various time points (Q1 - Q4 corresponding to time points T1 - T4, respectively) (Figure 1).

At Time 1 (T1), the initial preferences of the students were recorded in Q1. Students then received the "Informative Material"[7], consisting of simple, yet accurate, information on the scientific aspects of genetic testing related to reproductive choices (Appendix 4C). Participants received the Informative Material only during the course of the experiment and not beforehand. This was intended to prevent participants from looking for further information and/or discussing it with others, in order to achieve uniformity in the access to background information and a cleaner measure of the impact of information on the subsequent expression of preference. Students had one hour to read the material. During this time, students were not allowed to interact with each other or to use other sources of information (e.g., personal mobile phone). They were then asked to complete Q2 (T2) to measure the impact of information on their preferences. Q2 also included 5 questions

7 All the study material was prepared by the researcher responsible for the trial (V.S.), and was then corrected/modified/integrated by different experts – namely, two physicians (one specialized in genetics); five PhD students in philosophy (three of them specialized in bioethics); two statisticians; five professors of philosophy (one of political philosophy, two of philosophy of science; one of political science); two psychologists; a sample of high school students at their last year (therefore of a similar age to the sample). After this, DOXA, a leading Italian polling organization also checked the material (information sheet and questionnaires) to provide a final professional verification.

for evaluating their comprehension of the Informative Material (Appendix 4D).

Next, students were randomized, through a double randomization process, into the three aforementioned arms, without communicating to them the groups to which they had been assigned. Students within each group were then further randomized into subgroups of 4 or 5 students (Verba 1961; Karpowitz et al. 2012). Students then attended the deliberative sessions that lasted 90 minutes. At the end of the deliberative session T3, students[8] were asked to complete Q3, which also included a series of questions aimed at qualitatively evaluating the procedure (Appendix 4E-G).

Finally, all students were recalled one month after the deliberative sessions to fill in Q4, to evaluate the impact of time.

The study was run over 10 days with a total of 59 subgroups.

3.2.3 *Metrics*

As mentioned, distinct from similar studies, the endpoint of our study was not the mere change of preferences (Stewart et al. 1994; Coote and Lenaghan 1997; Fung 2006; Fishkin 2011), but the shift towards PoP. To quantitatively estimate the shift, we developed a 5-point likert scale. A score of 5 was attributed to answers closest to PoP as non-interference (scoring matrix is in Appendix 4H).

The quantitative outcome of the RCT was the mean individual change (MIC) towards (or away from) a perspective in line with PoP with respect to the use and implications of genetic testing in the context of reproduction at the time points, T2, T3 and T4, relative to the baseline, T1. We calculated the transformation for each student. The effect of the intervention was measured as the difference in pairwise comparisons between the three groups. To calculate the minimum observable difference of MIC between two groups, we used a two-sided t-test. Assuming: i) an enrolment of at least 100 students per group, ii) a significance level of 1%, iii) a statistical power of 80%, and iv) a variance of MIC in each group between 5 and 100, the minimum observable MIC was calculated to be 1.08 and 4.83 for a variance of 5 and 100, respectively.

8 Due to several no-shows on a specific day, one subgroup – in the observed arm – was not formed.

We considered this range in the minimum MIC as a reasonably observable one.

By analysing the MIC between T1 and T2 and by applying John Tukey's interquartile rule for outliers to identify poor quality data (Tukey 1977), we identified 31 (11%) students as outliers, defined as external to the median range ± (1.5 x the interquartile range), i.e., score ≤ - 6 or score ≥ 6. These students were excluded from further consideration and all outcomes were calculated on the remaining 243 students (Appendix 4I-J).

4. *Results*

4.1 *Preliminary surveys: Pilot Study 1 and Pilot Study 2*

In the integrated analysis of Pilot Study 1 and Pilot Study 2, we estimated two parameters (Table 1, Appendix 1C; Appendix 3): i) rate of uncertainty and ii) rate of asymmetry. The rate of uncertainty corresponds to the percentage of individuals who chose (for each question) the answer: "I do not have a definitive position on this topic yet". The rate of asymmetry indicates the degree of unbalance between the two extreme opinions in the study populations. This latter parameter can oscillate between 0 (total symmetry) and 50 (total asymmetry). The concepts of asymmetry and uncertainty are linked and reflect the need to select a topic in which changes of preference, in either direction, would be easier to score. Had we chosen a topic in which preferences were strongly polarized to begin with, then only changes in one direction would have been scorable. Thus, the selection of a topic with a high rate of uncertainty and a low rate of asymmetry was dictated by the need to have an optimal experimental design.

We chose these parameters based on the assumption that the less the subjects hold strong and extreme pre-deliberation tendencies on a certain topic, the more likely it would be to have experimental groups that do not polarize and that would perform a good deliberation (Sunstein 2000, p. 76). In fact, we maintain that the more the topic allowed for asymmetric perspectives and the less the subjects had strong and certain opinions on it, the more likely

it was for individuals to properly discuss arguments in favour and against a certain topic rather than to reinforce their pre-existing opinions. This reasoning, together with randomization, granted the possibility of genuine discussion within our experimental groups.

Topic 3 – "Genetic testing related to reproductive choices" – was the topic for which the study population was most similar to the general Italian population, while also displaying a suitable uncertainty rate (about one third) and a low asymmetry rate (Table 1). Thus, this topic was selected for the Main Study.

4.2 *Main study*

4.2.1 *Quantitative analysis*

The distribution of answers to questionnaires Q1-Q4 are reported in Appendix 4K. The quantitative analysis of the preferences at the various time points of the study (Table 2), revealed that:

- There were no significant differences at T1 between the three arms of the intervention (Observed, Passively Moderated, Actively Moderated), indicating that the randomization was appropriately conducted (Table 3).
- There were no significant differences in all pairwise comparisons between the three arms in the analyses T2 *vs*. T1 and T3 *vs*. T1. This finding indicates that there were no immediate effects of "information" (T2 *vs*. T1) or of "deliberation" (T3 *vs*. T1) (Table 4, top).
- There was a significant difference at T4 *vs*. T1 in the pairwise comparison Passively Moderated *vs*. Observed (p=0.0019) towards the PoP (Table 4, top). No significant differences were evidenced in the comparison T4 *vs*. T1, Actively Moderated *vs*. Observed (see §4).
- All of the above results were confirmed in an independent analysis, where we did not adjust for covariates (Table 4, bottom).

Tables 2, 3 and 4 are reported below.

TABLE 2. SCORES PER GROUP AT THE VARIOUS TIME POINTS. Questionnaire scores. Observed means and MICs, divided into groups and time (N=243).

Groups		Time			
		T1	T2	T3	T4
Observed	Mean (STD)	35.34 (7.96)	35.10 (7.98)	35.53 (7.20)	34.71 (7.45)
	MIC$ (STD)	---	-0.24 (2.47)	0.19 (3.71)	-0.56 (3.92)
	P*	---	0.53	0.81	0.20
Actively Moderated	Mean (STD)	36.32 (7.97)	37.04 (8.12)	37.02 (7.98)	37.24 (8.24)
	MIC$ (STD)	---	0.71 (2.29)	0.70 (3.76)	0.96 (3.78)
	P*	---	0.13	0.14	0.04
Passively Moderated	Mean (STD)	36.06 (7.46)	36.30 (7.61)	36.09 (7.65)	35.51 (8.21)
	MIC$ (STD)	---	0.24 (2.55)	0.03 (3.63)	-0.16 (4.01)
	P*	---	0.56	0.86	0.84

The scores (N=243), expressed as mean values (standard deviation, STD, is in parentheses), are reported together with the differences *vs*. T1, for the three branches of the study at the various time points. There were no drop-outs in T2 and T3. In T4, there were 8 drop-outs (3.3%). There were no statistically significant differences among the three arms of the study in the number of drop-outs at T4 (P=0.94). See Appendix 4J. *P: p-value from t-test linear regression model for repeated measures, considering the correlation between groups of discussion, and correcting for the level of the score at T1, for age, and for degree. $: The differences were calculated on the number of available students. Note that in this and all following analyses, we adopted a rather stringent criterion to define significance, setting our significant p-value at 0.01, instead of the customary 0.05.

TABLE 3: BASELINE DISTRIBUTION (T1) OF THE QUESTIONNAIRE SCORES, BY GROUP

Group	N	Mean (STD)	Median (q1;q3)	Coefficient (95% CI)	P
All	243	35.9 (7.78)	37.0 (30.0;42.0)		
Observed	79	35.3 (7.96)	37.0 (29.0;42.0)	Ref.	
Passively Moderated	84	36.3 (7.97)	38.0 (30.5;42.5)	0.98 (-1.40;3.36)	0.42
Actively Moderated	80	36.1 (7.46)	37.0 (30.5;42.0)	0.72 (-1.69;3.13)	0.56

N: number of students, STD: standard deviation, q1: first quartile, q3: third quartile, Ref: reference group, CI: Confidence interval, P: p-value. Coefficients and p-values were calculated using a univariate linear regression model. The coefficient of the linear regression model is the average difference in Q1 scores between the comparison group (Actively Moderated or Passively Moderated group) and the reference group (ref. Observed group).

TABLE 4: DIFFERENCES IN MIC TRANSFORMATION AMONG THE GROUPS

Time	Comparison	Coefficient (SE)	P-Value
T2	Actively Moderated/Observed	0.61 (0.53)	0.25
	Passively Moderated/Observed	1.07 (0.52)	0.04
	Actively Moderated / Passively Moderated	-0.46 (0.52)	0.38
T3	Actively Moderated /Observed	-0.03 (0.53)	0.96
	Passively Moderated/Observed	0.63 (0.52)	0.23
	Actively Moderated / Passively Moderated	-0.66 (0.52)	0.21
T4	Actively Moderated /Observed	0.55 (0.54)	0.31
	Passively Moderated/Observed	1.65 (0.53)	0.0019
	Actively Moderated / Passively Moderated	-1.10 (0.53)	0.04

Time	Comparison	Coefficient (SE)	P-Value
T2	Actively Moderated / Observed	0.53 (0.54)	0.33
	Passively Moderated/ Observed	0.98 (0.53)	0.07
	Actively Moderated / Passively Moderated	-0.45 (0.53)	0.40
T3	Actively Moderated / Observed	-0.11 (0.54)	0.83
	Passively Moderated/ Observed	0.53 (0.53)	0.32
	Actively Moderated / Passively Moderated	-0.65 (0.53)	0.22

T4	Actively Moderated / Observed	0.47 (0.55)	0.39
	Passively Moderated/ Observed	1.55 (0.54)	0.004
	Actively Moderated / Passively Moderated	-1.08 (0.54)	0.05

Top: Coefficient is the average difference in MIC between the groups of intervention at each time point and was estimated using a linear regression model for repeated measures, considering the correlation between groups of intervention, and correcting for the level of the score at T1, for age and for degree. P: p-value, SE: Standard error.

Bottom: Coefficient is the average difference in MIC between the groups of intervention at each time point and was estimated using a linear regression model for repeated measures, considering the correlation between groups of discussion, without adjusting for covariates. P: p-value, SE: Standard error.

4.2.2 *Additional analyses*

During the course of the study, participants were asked to answer additional questions at various time points.

At T2, students were asked to answer questions (Appendix 4D) to verify their comprehension of the Informative Material. Setting the threshold of understanding at 3 correct answers out of 5, only 10 participants out of 274 (3.6%) failed to meet it. Raising the threshold to 4 out of 5, 16.1% of participants did not meet the conditions of comprehension. Thus, since 83,9% of participants answered at least 4 out of 5 questions correctly, we concluded the material was comprehensible (p=0.0001) (Appendix 4F).

At T3, the additional questions (Appendix 4E) aimed at analysing interactional aspects of the experiment, such as the behaviour of participants, the general tendency of deliberative sessions, the implicit or explicit consensus reached between participants, and so on. In detail, 82% of the subjects found the questionnaire clear or very clear. Furthermore, 90% did not feel at all manipulated. Similarly, 95% felt highly or very highly free to express their preferences within deliberative sessions. Thus, there was almost no perception of any kind of manipulation.

Three questions dealt with the topics of respect, consensus, and transformation of preferences, broadly addressing issues of perceived legitimacy[9]. On the question asking whether the discussion promoted an attitude of higher respect towards the preferences of others, 88% answered "High/Very High".

In addition, on the question exploring whether the discussion was perceived as designed to strive towards consensus, 69% answered "High/Very High" (p=0.00005, calculated on the entire

9 Drawing from a well-known distinction present in the literature (see Ch. 2), in our experiment we distingueshed between *perceived* legitimacy – i.e., what participants declare as a consequence of their perception –, and *real* legitimacy – i.e., what they declare after having investigated, reflected upon, and rationalized what they have perceived. This distinction rests upon the idea that what participants claim through their preferences does not always correspond to their *considered* preferences; i.e., the preferences that participants would have expressed if they had had enough time and information to reflect upon them (Parkinson 2006; Kim et al. 2017).

distribution with respect to a null hypothesis of equal distribution among the categories); despite the fact that i) consensus-reaching was not the aim of the deliberative sessions, and ii) no indication in this direction was given to participants, the latter, nevertheless, appeared to conceive their task as an attempt to reach a consensus.

Finally, concerning the question related to the transformation of preferences, the majority of subjects did not perceive that they had changed their minds significantly from T1 to T3: 63% answered "Not at all/Small degree". This result is in line with the fact that at T3 no significant differences in the MIC were present. These data suggest that perceived legitimacy was in line with real legitimacy.

To conclude, having adopted a rather stringent criterion to define significance (p-value<0.01), we did not observe significant differences between the three experimental arms, regarding the aforementioned questions. However, in the question regarding manipulation (Q5), a trend towards the facilitated group (p=0.011) was noticed. And yet, if we consider the answers "Not at all" and "Small degree" as different, albeit comparable, proofs of absence of substantial manipulation by the side of the supervising figure, we can consider such a result not significant (p=0.53).

5. *Discussion*

The primary endpoint of the study was to describe the effects of deliberation on individual moral preferences in a wide sample of undergraduates representative of the general Italian population. In particular, I wanted to investigate whether deliberation might have led participants to adopt practices more oriented to the awareness and recognition of pluralism than the ones they initially expressed. I wanted also to investigate whether this shift was emphasized or downsized by different moderation styles.

In the discussion of results, I will focus on the three major study outcomes: the apparent lack of impact of information, the role of time in unmasking the deliberative effects, the better appreciation of passive over active moderation.

5.1 *Is there an impact of information?*

The first outcome of the RCT is that providing informative material demonstrated no effect, as illustrated by the lack of change at T2 (Table 4). One could argue that, since it is impossible to distinguish between the impact of information and deliberation at T3 and at T4, the fact that an effect was observed at T4 in the passively moderated group (*vs*. the observed one) could be due to some additive effect (over time) of information plus deliberation. In principle, this is a reasonable objection, given that information might have laid the foundations for a less biased approach to the subsequent deliberation, therefore representing an "enabling condition" for the subsequent shift of preferences. However, this potential "enablement" was unmasked only in the moderated arm (see below), while one might have reasonably expected it in all arms.

It remains indisputable that there was no effect of information *in the short term* (from T1 to T2) and this raises a number of methodological questions and caveats. First, we did not measure the impact of information over time *per se*. This may be relevant since time was an important factor in influencing opinions. Second, the time that participants were given to read and to comprehend the information might have been too short (1 hour), even though the comprehension test revealed a satisfactory level of understanding. Third, we did not include sessions with experts, which are frequently part of traditional deliberative studies (Fiorino 1990; Fishkin, Luskin, & Jowell 2000; Abelson 2003b; Fishkin 2011), thereby reducing exposure to information. However, at least the last two modifications were intentionally introduced to test an approach that was less idealized than the ones currently present in the literature and that can hardly be applied in real-life settings. Our design, while retaining the rigor of a laboratory setting to obtain causal inferences from the adopted interventions, was conceived with the intent of moving closer to practice[10]. To

10 In real-life settings, procedures will have to be streamlined to ensure citizens' compliance (doing otherwise might introduce severe sampling biases due to the selection of a population with more time available),

conclude, although more work is needed, my hypothesis is that, at least in the close-to-practice setting that I enacted and limited to bioethical issues, deliberation is more effective than information in promoting pluralism.

5.2 *The role of time*

At T3, i.e., immediately after the deliberative sessions, we did not observe any significant effect of the various moderation styles. However, after one month (T4) and in the absence of any other intervention, there was a significant shift towards PoP. The effect was not only highly significant (Passively Moderated *vs*. Observed, p=0.0019), but also of a relevant absolute magnitude. In principle, if each participant had shifted all his/her preferences (i.e., to each single question) one notch towards PoP, we should have seen a MIC difference of 10. In the Passively Moderated group, the change in mean MIC between T1 and T4 was ~1. This means that, on average, with only 90 minutes of passively moderated deliberation followed by one month of "reflection" time, ~10% of all participants embraced a view compliant with PoP on all questions (or that all the participants did so on 10% of the questions).

This is interesting in light of the doubts that have been raised on whether deliberation is a useful learning process, above all when devised as a single event. Chlivers, for instance, reported that those who attended deliberative experiments repeatedly asked to have "enough time […] to become informed and develop a competent understanding" (Chlivers 2008, p. 174). Similarly, several of our participants expressed the need to extend the time devoted to deliberation in the final Evaluation Questionnaire. Analysing our data, however, rather than being a matter of the number (or length)

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and to contain costs. Thus, we opted for a series of time-saving and parsimonious approaches, such as providing written balanced material as "information" and limiting the entire RCT to 5 hours per participant. And yet, being aware that time to metabolize what was learned is important, we introduced a final questionnaire (T4) one month after the RCT.

of deliberative sessions, the issue might be the time that participants need in order to properly digest the deliberative session.

At a minimum, therefore, our results show the need to evaluate the impact of deliberative interventions some time after them – which is atypical for experimental settings, while present in mini-publics (e.g., Nabatchi 2010). If relatively brief sessions prove effective, our results encourage devising protocols for the real-life application of deliberative methodologies. I submit here, based on our results, that a limited number of short sessions might be sufficient, provided that the end-points are evaluated after a reasonable amount of time.

5.3 *Passive vs. active moderators*

Our results showed a remarkable difference ascribable to the presence of Passive Moderators *vs*. Active Moderators in the discussion groups. While in the passively moderated setting there was a clear (and very significant) shift towards PoP, this did not occur in the actively moderated groups. This means that participants tended to significantly transform their preferences, in particular embracing pluralistic oriented perspectives, only in the Passively Moderated harms minimizing unfair groups dynamics, i.e., where discussion was *de facto* moderated by participants themselves (peer-to-peer discussion).

A possible interpretation of this result is that the presence of a non-corrective figure (the Passive Moderator) was beneficial, both objectively and subjectively, in promoting the purposes of deliberation, in particular pluralism awareness[11]. This was also confirmed by questionnaires administered after T2, where participants belonging to the Passively Moderated arms reported their appreciation towards the figure who supervised their groups; differently, some participants belonging to the Actively Moderated arm reported expressions of concerns towards their supervisors,

11 Moore has suggested further reflection upon and possible standardisation of the different figures mediating deliberation (Moore 2012). In this context, our identification of DOs and DON'Ts for Passive Moderators (Appendix 4A) may represent a valuable starting point.

sometimes stating that they had had the impression of having been influenced or manipulated during discussion by the moderating figures. Other (alternative) interpretations are also possible[12].

To what extent this result impacts on the broader issue of bioethical expertise, in particular the proposal of a possible reconfiguration of public bioethical experts in line with ideals of deliberative democratic theories, will be discussed in the general conclusion of this volume.

6. *Conclusion*

Herein, I have reported and discussed the results of a large-scale mixed method study exploring moral preferences of undergraduates, subject to different moderation styles, on the topic of genetic testing in the context of reproductive choices. Drawing from the hypothesis that deliberative democracy can be an instrument tailored for serving the purposes of public bioethics, acting as a tool for addressing and managing moral disagreement occurring in the public sphere, this study has shown that public deliberation with the presence of a passive moderator is an appropriate means for fulfilling the purposes that proponents of deliberation envisaged in theorising it.

12 It may be argued, for instance, that this shift towards preferences occurred because of other group dynamics, e.g., because participants felt the pressure of expressing a preference in line with group's majority. And, since deliberation, as it has been shown, is a process which tends producing pluralistic positions, the majority view would be in any case in line with the PoP.

APPENDICES PRELIMINARY SURVEYS

APPENDIX 1

In Appendix 1, we provide additional information concerning Pilot Study 1. In particular:

1A. The distribution of the polled students among the various curricula of the <institutional name deleted for peer review>.

1B. The questionnaire administered in Pilot Study 1 (identical to that administered in Pilot Study 2). *Note for the reader: the questionnaire was in Italian. In this appendix, we provide an as-faithful-as-possible translation. The same applies to all other material presented in these appendices, including the Informative Material, the Interventional Questionnaire, the Comprehension Questionnaire, and the Evaluation Questionnaire.*

1C. An analysis of the uncertainty and asymmetry rates in the student population stratified according to the curricula.

1A. *Distribution of students enrolled in Pilot Study 1*

Curriculum	N
Professionalizing degrees	114
Medicine	90
Literature	136
Political Sciences	103
Philosophy	211
Engineering	188
TOTAL	842

The number of students (N) enrolled in Pilot Study 1 is shown from the various curricula of the University of Milan.

Professionalizing degrees include students from Physiotherapy, Cognitive Sciences, Nursing, Radiology technicians.

1B. *Questionnaire of Pilot Study 1 and Pilot Study 2*

Before completing the questionnaire please read the following carefully:

1. The questionnaire is completely anonymous and the answers will be used only for statistical analyses.
2. When filling out the questionnaire, please note that there are no *right* or *wrong* answers.
3. The purpose of the questionnaire is solely to assess how the participants' preferences are distributed with respect to the statements in the questionnaire.
4. The questionnaire focuses on four subjects: genetic testing in general, direct-to-consumer genetic testing, genetic testing in the context of reproductive choices, and genetically modified organisms (GMOs).
5. Choosing the answer "*I do not have a definitive position on this topic yet*" may mean that you do not have sufficient information to answer to the question, or that you are not yet certain of your preference despite having sufficient information, or that there are other reasons for not giving or being able to give a definitive answer to the question.
6. Please mark with an "X" only one answer, and provide an answer for each question.

TOPIC 1 – ETHICAL ISSUES RELATED TO GENETIC TESTING IN GENERAL

Relative to the statement: *it is ethically legitimate not to communicate the results of a genetic test to a patient…*

Question 1

…simply because the patient asks so without providing additional justifications.

- I agree
- I do not agree
- I do not have a definitive position on this topic yet

Question 2

…because the patient asks so, and he/she justifies the request on the basis of the right not to know.

- I agree
- I do not agree
- I do not have a definitive position on this topic yet

Question 3

…because the patient asks so, and he/she justifies the request based on the right not to know, even though the findings might have an impact on the health of his/her relatives (for example because an inheritable genetic disorder is discovered).

- I agree
- I do not agree
- I do not have a definitive position on this topic yet

TOPIC 2 – ETHICAL ISSUES RELATED TO DIRECT-TO-CONSUMER GENETIC TESTING (e.g.: THROUGH INTERNET)

Relative to the statement: *Direct-to-consumer genetic testing…*

Question 1

…is ethically controversial.

- I agree
- I do not agree
- I do not have a definitive position on this topic yet

Question 2

…is not only ethically legitimate, but it also promotes the autonomy of citizens because it allows, if so desired, access to disease-related information, without necessarily having to have a consultation with a healthcare professional.

- I agree
- I do not agree
- I do not have a definitive position on this topic yet

Question 3

…does not promote the autonomy of citizens because citizens are not experts and, therefore, consultation with a doctor might be necessary to understand the results and make informed choices.

- I agree
- I do not agree
- I do not have a definitive position on this topic yet

TOPIC 3 – ETHICAL ISSUES RELATED TO GENETIC TESTING IN THE CONTEXT OF REPRODUCTION

Question 1

Relative to the statement: *It is ethically acceptable for parents to use pre-implantatory genetic testing to decide not to implant an embryo affected by a genetic disease, because frequently it is the parents who bear the greater burden of the child's genetic disease.*

- I agree
- I do not agree
- I do not have a definitive position on this topic yet

Question 2

Relative to the statement: *It is ethically acceptable for parents to use pre-natal genetic testing to decide to abort a fetus affected by a genetic disease, because frequently it is the parents who bear the greater burden of the child's genetic disease.*

- I agree
- I do not agree
- I do not have a definitive position on this topic yet

Question 3

Relative to the statement: *Counter-selection of embryos or abortion of fetuses affected by genetic diseases are practices at risk of promoting, in the long-term, social rejection of people suffering from those diseases.*

- I agree
- I do not agree
- I do not have a definitive position on this topic yet

TOPIC 4 – GENETICALLY MODIFIED ORGANISMS (GMOs)

Question 1

Relative to the statement: *Is it ethically legitimate to produce GMOs considering that, so far, there have been no negative consequences on people's health, even though it is not possible to exclude them a priori?*

- I agree
- I do not agree
- I do not have a definitive position on this topic yet

Question 2

Relative to the statement: *It is not ethically legitimate to produce GMOs because, by doing so, we are diminishing biodiversity.*

- I agree, since doing this diminishes biodiversity
- I do not agree, since the risk of diminishing biodiversity can be controlled
- I do not have a definitive position on this topic yet

Question 3

Relative to the statement: *GMOs are ethically controversial since they are transgenic organisms, that is, organisms constituted by genes belonging to different species.*

- I agree, transgenic organisms are ethically problematic
- I do not agree, transgenic organisms are not ethically problematic
- I do not have a definitive position on this topic yet

1C. *Uncertainty and asymmetry rates in the student population stratified according to the curricula, in Pilot Study 1 (N=842).*

Degree	Topic	Uncertainty Chi-sq	Asymmetry Chi-sq
Professionalizing degrees N=114	1	1.2	1.5
	2	2.5	2.3
	3	3.3	8.6
	4	1.1	3.9
Medicine N=90	1	5.9	13.1
	2	14.1	4.5
	3	1.5	10.1
	4	9.1	29.1
Literature N=136	1	4.3	0.2
	2	12.7	1.5
	3	2.7	9.7
	4	5.6	19.9
Political Sciences N=103	1	3.6	0.3
	2	1.5	14.5
	3	0.7	13.6
	4	9.2	4.8
Philosophy N=211	1	8.7	1.4
	2	10.8	9.3
	3	0.8	2.5
	4	5.5	12.4
Engineering N=188	1	0.9	13.2
	2	6.3	6.7
	3	0.2	4.3
	4	2.2	16.1

The Uncertainty rate and the Asymmetry rate in the total student population who participated in Pilot Study 1 (N=842) was compared to the same parameters calculated in the subpopulations of students from the various curricula by the Chi-square test. Rates

were calculated as in Table 1 of the main text. As evident from the very low Chi-square values, there were no major differences between each subgroup and the total student population. In grey, we marked the scores for Topic 3, which was the topic selected for the subsequent main experiment.

APPENDIX 2

In Appendix 2, we provide additional information concerning Pilot Study 2. In particular:

2A. The distribution of the general population polled (N=1,000).

2B. An example of the distribution of answers to a question (Topic 3, question 2).

2A. *Distribution of the general population polled for Pilot Study 2 (N=1,000).*

Gender	Men	500
	Women	500
Age	18-25	135
	26-35	218
	36-45	292
	46-60	355
Education	BA or MA or higher	182
	High School	595
	Junior High or lower	223
Geographical Area	North West	263
	North East	188
	Center	223
	South	326
	TOTAL	1000

Polling was performed by an external agency (DOXA), in the period between July 9-17, 2014 on a sample of 1,000 individuals (aged 18 – 60) representative of the general Italian population by sex, age group, education and geographical area of residence.

2B. *An example of the distribution of answers to a question (Q 3.2) in Pilot Study 2.*

		Agree (%)	Disagree (%)	No definite position yet (%)
Gender	Men	63	20	18
	Women	62	19	19
Age	18-25	61	18	21
	26-35	64	20	16
	36-45	60	22	18
	46-60	64	18	18
Education	BA or MA	67	18	15
	High School	68	15	17
	Junior High	56	25	19
Geographical Area	North West	63	20	17
	North East	63	17	20
	Center	61	21	18
	South	63	20	18
	Mean (%)	62	20	18

Results for Question 3.2 (Topic 3, question 2) of Pilot Study 2 are reported.

APPENDIX 3

Comparative analysis of Pilot Studies 1 and 2, by questions.

Topic	Questions	Uncertainty rate			Asymmetry rate		
		Students (%)	General (%)	Chi-sq	Students	General	Chi-sq
1	1	44	17	161	31	11	215
	2	35	13	126	30	9	70
	3	21	12	23	35	22	36
2	1	28	13	59	28	15	30
	2	21	14	15	39	3	222
	3	7	14	22	45	29	94
3	1	31	15	65	23	33	22
	2	32	18	47	15	26	19
	3	25	20	8	13	5	9
4	1	47	24	104	7	12	41
	2	57	29	154	1	14	23
	3	45	28	60	8	23	113

Summary of the results obtained in Pilot Study 1 and Pilot Study 2.

The Column "Topic" refers to the four topics under scrutiny:

1. Genetic testing in general.
2. Genetic testing directed towards consumers.
3. Genetic testing related to reproductive choices.
4. Genetically modified organisms.

For more detailed explanations, see Table 1 of the main text.

APPENDICES MAIN STUDY

APPENDIX 4

In Appendix 4, we provide additional information concerning the main experiment. In particular:

- 4A. A description of the modalities of training and of the instructions received by Observers, Passive Moderators and Active Moderators for the performance of their duties during the deliberative sessions.
- 4B. The Questionnaire (Q) administered at T1, T2, T3 and T4.
- 4C. The Informative Material provided after T1.
- 4D. The Comprehension Questionnaire administered together with Q2.
- 4E. The Evaluation Questionnaire administered together with Q3.
- 4F. Results of correct answers to the Comprehension Questionnaire
- 4G. The results of the Evaluation Questionnaire.
- 4H. The scoring matrix adopted to quantitatively evaluate the Questionnaires at the various time points.
- 4I. The comparison between the analysis group and the outlier group.
- 4J. Number of study participants for each time point/group.
- 4K. Results of the Questionnaires (Q1-Q4) at T1-T4.

4A. *Training and performance of Observers, Passive Moderators and Active Moderators before and during the deliberative sessions*

To ensure uniformity of treatment in the various sub-groups of each experimental arm, supervisors were trained and given specific rules of behavior (see Table below) and a statement to deliver to the participants at the beginning of each session. Statements were as follows:

Observer: "My name is X and I will be observing your group as you discuss the ethical issues regarding genetic testing in the context of reproduction. I will not intervene in any way. I cannot provide you with any additional information. You can either start a discussion based on the informative material or based on the questions you found in the questionnaires. I will only tell you when the time for your discussion is over".

Passive Moderator: "My name is X and I will be your moderator today as you discuss the ethical issues regarding genetic testing in the context of reproduction. I will only intervene so that everyone gets a chance to express his or her opinion. I will keep time of your interventions so that everyone can speak for roughly the same amount of time. I will not provide you with additional scientific or ethical information. You can either start a discussion based on the informative material or on the questions you found in the questionnaires. I suggest that you start by presenting yourselves, your background, and by expressing your preferences on the topic at hand".

Active Moderator: "My name is X and I will facilitate this group today as you discuss the ethical issues regarding genetic testing in the context of reproduction. I will keep time of your interventions, making sure that everyone gets the chance to express his or her opinion. Moreover, I will help to promote an open and respectful discussion on different perspectives on the issue at hand. My role in facilitating this group is that of helping you to elaborate your own position. You are just asked to justify your preferences - that is, provide reasons for them that can be considered acceptable by reasonable people even though they may not share your perspective -, and I will help you do that. Any reasonable position you defend will be considered equally valid. I will not judge your position, I will only help you understand and consider various

possible implications and consequences of it, nor will I provide you with any scientific additional information. If necessary, I will just refer you back to the material that you have read. I suggest that you start by presenting yourselves, your background, and by expressing your preferences on the topic at hand".

The rules of behavior for the supervisors are summarized in the following Table:

TASKS	PASSIVE MODERATOR	ACTIVE MODERATOR
Ensure that all the participants have the chance to speak.	✓	✓
Curb talkative participants.	✓	✓
Keep time.	✓	✓
Give the participants time to think and reflect. *	✓	✓
Prevent episodes of domination amongst participants.	✓	✓
Ensure that all the participants express a *preference.*		✓
Ensure that the preference is grounded on validated scientific information.		✓
Encourage participants to provide arguments to justify their preferences.		✓
Ensure that presented arguments are logically consistent and do not show logical fallacies.		✓

Establish a dialogic relationship with the participants so as to understand their viewpoint/preference, with the final aim of making them aware of it.		✓
Ensure that the participant is aware of the implications of having adopted one position over another, both at an individual level and a societal level.		✓
Ensure that all viewpoints have been pointed out in the discussion and, if not, do this, so as to allow the participants to be aware of all the possible scenarios.		✓
Encourage participants to interact with one another, promoting a cooperative attitude.		✓
Encourage participants to pay attention to what other participants are saying.		✓
Maintain a neutral position.	✓ [Since he/she does not intervene in the discussion]	✓ [Since, despite intervening, he/she does not reveal his/her own viewpoint]

Provide participants with additional scientific information with respect to that already present in the supplied material.	NO	NO
Refer back to the supplied material in order to provide context for discussion (if necessary).		✓

* In the passively moderated setting, this translated essentially in an attitude of the moderator towards shy participants exemplified by the dynamics: "If you do not want to say something now, why don't you take the time to think and reflect and I will make sure that we come back to you when you are ready". In the actively moderated settings, this function was executed in a more proactive way by helping shy participants to articulate their thoughts in a maieutic fashion.

In addition to providing the above guidelines and rules, we were concerned that during the deliberative sessions, some degree of unconscious manipulation by the supervisors might occur: a situation that might apply especially in the actively moderated groups. Thus, training of the supervisors (Observers, Passive Moderators, Active Moderators) was implemented with great care.

In particular:

1. As pointed out by Karpowitz and Mendelberg, it is important to find out how experimenters are trained (Karpowitz and Mendelberg 2012). In our setting, all supervisors met three times before the experiment to receive instructions and, raise and discuss possible questions and, importantly, to simulate the actual modalities of the intervention. In particular:

- - In the first meeting, one of the study designers (V.S.) met with all supervisors, to allow them to introduce themselves to the others. Then, the experimental design was presented

and discussed, including all the propaedeutic work derived from Pilot Study 1 and Pilot Study 2. The study population was described and discussed. Finally, the schedule of the experiment was presented and discussed.

- - In the second meeting, the "rules of engagement" in the three arms of the intervention were presented and discussed, with particular attention to procedure standardization emphasizing the DOs and DON'Ts pertaining to the various roles, and "what to say and how to say it".
- - In the final meeting, a role-play was set up in order to simulate the real experimental setting and test all the details previously discussed.

2. In preparation for the actual deliberative sessions, supervisors were asked to dress similarly and avoid revealing their academic background.

3. Before the actual experiment, all supervisors were asked to fill in the Questionnaire (Q), so that their preferences would be disclosed and recorded in advance.

4. Finally, and most importantly, participants were asked to evaluate the figure supervising their group and to declare whether they thought they had been manipulated (see comments on the "evaluation questionnaire" and in the "Additional analyses" section in the main text).

4B. *The Questionnaire (Q)*

The questionnaire shown below was used at T1, T2, T3 and T4.

Note that at T2 and T3 additional questionnaires were administered: the Comprehension Questionnaire (T2) and the Evaluation Questionnaire (T3).

IDENTIFICATION NUMBER:

Before completing this questionnaire please read the following points carefully:

1. The questionnaire is completely anonymous and the answers will be used only for statistical analyses.
2. When filling out the questionnaire, please note that there are no right or wrong answers.
3. The purpose of the questionnaire is solely to assess how the participants' preferences are distributed with respect to the statements in the questionnaire.
4. The questionnaire focuses on the following subject: genetic testing in the context of reproductive choices.
5. Choosing the response "I neither agree nor disagree" may mean that you do not have sufficient information to answer the question, or that you are not yet certain of your preference despite having sufficient information, or that there are other reasons for not giving or being able to give a definitive answer to the question.
6. Please mark with an "X" only one answer, and provide an answer for each question.
7. Remember to enter your identification number.

Before starting the questionnaire, please fill in the demographic information

GENDER: M / F

AGE: _____ in years

DEGREE:

□ Medicine
□ Nursing
□ Physiotherapy
□ Cognitive Sciences
□ Philosophy
□ Radiology

Abbreviations Used

PGD = Preimplantation genetic diagnosis

PD = Prenatal diagnosis

QUESTIONNAIRE

For each of the following statements, please mark with an X the answer that most accurately reflects your opinion.

Note: each question was followed by the following options

□ Strongly disagree
□ Disagree
□ Neither agree nor disagree
□ Agree
□ Strongly agree

Question 1

A person who wants to have a child and suspects to be at risk of giving birth to an individual with a genetic disease can freely choose whether or not to verify this risk through genetic testing i.e., he/she is not obliged to undergo genetic testing.

Question 2

A person who wants to have a child after being informed, following genetic testing, to be at risk of giving birth to an individual with a genetic disease, should be forced towards a specific set of reproductive choices: reproductive abstinence; adoption; heterologous fertilization; PGD and implantation in the uterus of unaffected embryos; conception, PD and therapeutic abortion.

Question 3

It is ethically acceptable for parents to use PGD or PD with the aim of having a child free of genetic diseases, because frequently it is the parents who will bear the greater burden of the child's genetic disease.

Question 4

It is ethically acceptable for parents to use PGD or PD with the aim of having a child free of genetic diseases, as this is consistent with the aims of medicine: to prevent and to cure disabilities.

Question 5

It is NOT ethically acceptable for parents to use PGD or PD with the aim of having a child free of genetic diseases, as it is not the fault of the embryo/fetus if it is suffering from a genetic disease. Not implanting or aborting an affected embryo/fetus will harm it unjustly.

Question 6

It is NOT ethically acceptable for parents to use PGD or PD with the aim of having a child free of genetic diseases because, by doing so, one assumes to have the right to choose whom to allow or to deny the possibility of life.

Question 7

It is NOT ethically acceptable for parents to use PGD or PD with the aim of having a child free of genetic diseases in the case of low-penetrance diseases, as by doing so they may eliminate a future individual who will not develop the disease.

Question 8

It is NOT ethically acceptable for parents to use PGD or PD with the aim of having a child free of genetic diseases because the affected embryo/fetus has only two alternatives: to be born with the disease or not to be born at all. In fact, PGD/PD is not a therapy: the affected embryo/fetus is not treated; on the contrary, a healthy one is chosen in its place.

Question 9

It is NOT ethically acceptable for parents to use PGD or PD with the aim of having a child free of genetic diseases because; by doing so, there will be fewer and fewer sick people in the world and therefore their voices and their rights will be less and less heard or considered to be politically relevant.

Question 10

It is NOT ethically acceptable for parents to use PGD or PD with the aim of having a child free of genetic diseases because, in the long-term, this practice is likely to promote social rejection of people suffering from those diseases.

DID YOU ANSWER TO ALL OF THE QUESTIONS?
DID YOU FILL IN YOUR IDENTIFICATION NUMBER?
PLEASE CHECK ONE LAST TIME!

Note that the original Q administered to participants contained 14 questions. We noticed, however, that in 4 cases some ambiguities in the formulation of the questions (or in their possible interpretation) prevented the assignment of an unambiguous quantitative score (see 3G) to the answers. For this reason, these questions were excluded from further consideration and are not shown here.

4C. *The Informative Material*

GENETIC TESTS AND REPRODUCTIVE CHOICES INFORMATIVE MATERIAL

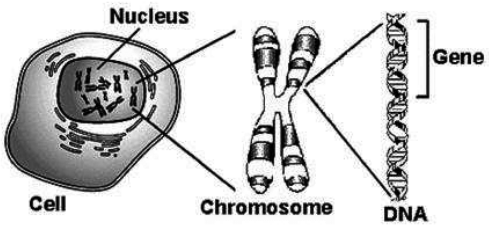
WORDS IN BOLD WITH * ARE DEFINED IN THE GLOSSARY AT THE END OF THE INFORMATIVE MATERIAL

Introduction: genes and chromosomes

The human body is made up of approximately 100,000 billion cells. Almost all cells contain a set of chromosomes, which carry genetic information. A gene is a heritable region on the DNA*, from which an RNA* molecule, associated with a particular function, is synthesized. The human genome* is made up of thousands of genes: 20,000 - 25,000 depending on the particular calculation. Genes control all cellular functions and have a fundamental role in the determination of many characteristics, such as eye color, blood group and height.

Genes are contained on long, linearly condensed filaments, called chromosomes*. *Homo Sapiens* have 46 chromosomes: 22 pairs of autosomal or non-sex chromosomes, and one pair of sex chromosomes, X and Y. A person's chromosomes are inherited from his/her parents, 23 from the mother and 23 from the father. Thus, there are usually two copies or versions of each gene, termed alleles*.

Chromosomes and genes are made up of a chemical substance called deoxyribonucleic acid or DNA.



A genetic disorder is a disease caused by an alteration in the genetic material present in the cells, involving one or more genes. A genetic disorder can be *inherited*, if passed from parent to child. In this case, the mutation* is present in the DNA in the oocyte* or sperm. Alternatively, a genetic disorder can emerge after conception or during pregnancy, in which case the disease is referred to as a *congenital*, rather than inherited, genetic disorder.

A separate discussion applies to cancer, where, in general, cells accumulate genetic mutations during a person's life that lead to their uncontrolled proliferation.

Genetic disorders are usually classified as:

a. *Chromosomal disorders.* Chromosomal disorders derive from variations in the set of human chromosomes. Since each chromosome contains thousands of genes, chromosomal alterations usually result in very serious clinical syndromes, i.e., a set of medical signs and symptoms that are associated with one or more somatic abnormalities, growth retardation, mental delay, etc. There are two types of chromosomal variations that can determine the onset of a disorder: numerical alterations in the number of whole chromosomes, referred to as aneuploidy or polyploidy, and structural alterations in the integrity, copy number and sequence direction within the chromosomes, due to translocations, insertions, deletions, duplications, etc.

è An example of a chromosomal disorder is Down's syndrome. This disorder is a numerical chromosomal disorder, specifically an aneuploidy disorder. It is also known as trisomy 21 because all the body's cells contain 3 copies of chromosome 21. The life expectancy of individuals with Down's syndrome is about 60 years. This syndrome is the most common chromosomal abnormality in humans: it appears in 1 out of 700/1000 live births. The only other viable trisomies are Edward's syndrome (abnormality in chromosome 18) and Patau's syndrome (abnormality in chromosome 13) and Kleinfelter's

syndrome. All other trisomies are non-viable. The only viable monosomy is Turner's syndrome.

b. *Monogenic or single-gene disorders.* Monogenic or single-gene disorders are caused by mutations in a single gene (point mutations or genetic mutations). Monogenic disorders are classified as autosomal if the mutation occurs in a gene on a non-sex chromosome or X/Y-linked if the mutation occurs in a gene on a sex chromosome. Autosomal disorders can also be classified as dominant or recessive. An autosomal disorder is dominant if the mutation of a single allele is sufficient for the disease to manifest itself, and recessive if both alleles need to be mutated.

è An example of a monogenic disorder is Huntington's disease, which is a dominant autosomal disorder. This disease is caused by the mutation of one of the two alleles of the Huntingtin gene. Disease onset usually occurs in individuals between 30 to 50 years of age, after which the disease progresses slowly, but is fatal after 16-20 years. The incidence of this syndrome is 5-10 cases per 100,000 people.

c. *Multifactorial inheritance disorders.* Multifactorial inheritance disorders are caused by a combination of multiple factors, including genetic and environmental factors and their reciprocal interactions.

è An example of a multifactorial inheritance disorder is diabetes mellitus. Diabetes is a chronic disease that is characterized by the presence of elevated levels of glucose in the blood due to alterations in the amount or function of insulin. Insulin is a hormone produced by the pancreas that allows the absorption of blood glucose into intestinal mucosal cells, where it is used as an energy source. When this mechanism is impaired, glucose builds up in the bloodstream. There are different types of diabetes (type 1, type 2 and gestational diabetes), all of which are considered as multifactorial disorders. The incidence of this disease is about 1 in every 20 people[1].

Genetic analysis

A genetic test or analysis aims to detect or exclude the presence of DNA modifications associated with genetic disorders through the analysis of specific genes or chromosomes.

Genetic analyses are usually performed on blood or tissue samples.

What are genetic tests used for?

A genetic test is a tool used to determine:

- If a person has a genetic disorder – *diagnostic purpose*.
- A person's predisposition to develop a specific genetic disorder, particularly, in cases where there is a family history of the disease – *predictive purpose*.
- Individual genetic variations, knowledge of which permits the selection of the most appropriate treatment for a specific person – *pharmacogenomics purpose*.

What can genetic tests tell us?

To understand what a genetic test can tell us about a given genetic disorder, it is important to understand the concepts of penetrance and genetic risk.

Penetrance

Penetrance is the frequency (expressed as a percentage) with which a characteristic linked to a particular gene, and thus to a corresponding genetic disease, is displayed in individuals carrying a given mutation. The concept of penetrance is of primary importance in the debate on genetic testing because it indicates the frequency with which a particular genotype* determines, *at the population level,* the appearance of a corresponding genetic disorder.

There are two types of disease penetrance: complete and incomplete. Penetrance is *complete* when 100% of carriers of a certain genotype display the typical phenotype* associated with that genotype (e.g., Down's syndrome is a genetic disorder

with complete penetrance because everyone who has a trisomy of chromosome 21 is affected by the syndrome). Penetrance is *incomplete* when less than 100% of carriers display the typical phenotype (e.g., Huntington's disease is a genetic disorder with incomplete penetrance because not all individuals carrying a mutation in the disease-causing gene develop the disease).

For diseases with complete penetrance, the individual will know that, at the population level, the presence of the genotype determines the presence of the disease in all cases. For diseases with incomplete penetrance, the individual is less facilitated in the choice he/she has to make because he/she does not know whether the observed genotype will give rise to the corresponding genetic disorder.

Genetic risk

"Genetic risk" is the probability that an individual carrying one or more mutations associated with a genetic disorder will actually suffer from the disease. Penetrance is linked to single mutations, while genetic risk takes into account all of the mutations present in an individual. Thus, there may be individuals carrying several low penetrance mutations, which when considered together, increase the genetic risk of that individual.

Genetic tests and reproductive choices

By "reproductive choices" we mean the decisions that one has to make as a prospective parent regarding whether to procreate, with whom, under what conditions, when, etc.

To help a person make these decisions, genetic testing can be carried out on the prospective parents and on the embryo, either before implantation in the uterus or during pregnancy.

Genetic tests on prospective parents are performed using small blood samples and/or saliva and are used to determine whether the parent is a healthy carrier, suffers from a certain disease, or neither of these alternatives.

For the embryo/fetus, two types of genetic tests can be performed: prenatal diagnosis and preimplantation genetic diagnosis.

Prenatal Diagnosis (PD)

PD refers to all techniques that reveal the presence of disease (genetic and non-genetic) in the fetus. These techniques are performed during pregnancy and may be invasive or non-invasive.

Invasive techniques (e.g., amniocentesis and chorionic villus sampling) are reimbursed by the National Health Service for pregnant women over 35 years old at the time of delivery. In contrast, non-invasive techniques, such as maternal blood tests, are paid for by the pregnant woman.

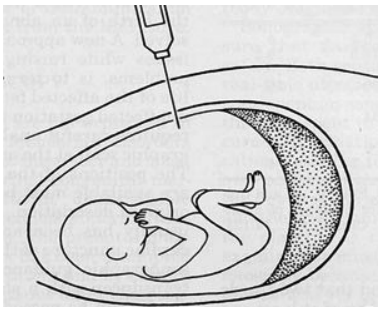
Non-invasive techniques include:

- *Ultrasound.* Ultrasound is a radiological investigation that does not use ionizing radiation but ultrasound. It is therefore risk-free, and is used routinely during pregnancy to assess gestational age, to monitor fetal growth, to identify twin pregnancies, and to determine the sex of the unborn child. Ultrasound tests are able to diagnose anatomical malformations that are often transmitted as a multifactorial disorder, but cannot identify specific biochemical or molecular defects.
- *Screening of maternal blood in particular, triple and quadruple tests on maternal blood.* Triple and quadruple screening tests are carried out between the 15th and 18th gestational week and are performed using a simple blood test. These tests assess the concentrations of specific substances present in the maternal blood that are produced by the fetus and the placenta. The triple test measures the amounts of three substances: alpha-fetoprotein AFP, beta-human chorionic gonadotropin bHCG and unconjugated estriol E3 FREE. The quadruple test measures the amounts of inhibin A in addition to the substances in the triple test. These analyses evaluate the fetus' genetic risk for developing a particular disease, but cannot diagnose with certainty the actual presence of the genetic disease.
- *Non-invasive tests to detect fetal DNA in maternal blood.* These tests are early diagnostic tests that are performed from the 9th week of gestation. They are precise and reliable tests, as well as safe as they require a normal sample of maternal

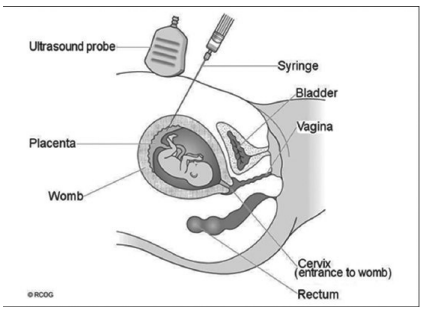
blood. This technique assesses the risk of having some fetal chromosomal abnormalities, such as Down's syndrome or other syndromes that are derived from alterations of the sex chromosomes. The reliability of these tests in detecting these abnormalities is 99%.

Invasive techniques[2]*:*

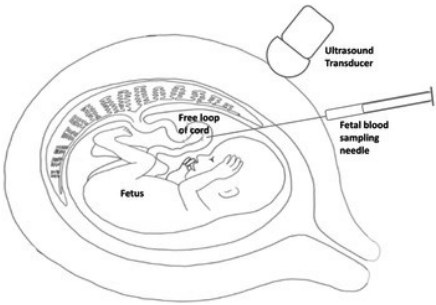
- *Amniocentesis.* Amniocentesis is performed through trans-abdominal sampling of the amniotic liquid* after the 15th week of gestation* under ultrasound guidance. The risk of miscarriage* is low but not negligible (less than 1%).



- *Chorionic villus sampling.* Chorionic villus sampling involves trans-abdominal sampling of placental villi under ultrasound guidance after the 10th gestational week. The risk of miscarriage is the same as or slightly higher than that of amniocentesis[3].



- *Cordocentesis.* Cordocentesis involves sampling of fetal blood after the 18th gestational week. The risk of miscarriage is 2-3%.



How to choose between the different invasive and non-invasive techniques?

Both amniocentesis and chorionic villus sampling allow the detection of chromosomal abnormalities (karyotype* and microscopic rearrangements*). Genetic testing is not carried out unless there is some indication that a specific genetic disease might be present, such as a family history. This is because it is not possible to test for all genetic disorders since they are numerous and not all are known. It is therefore possible for a child to be born with a genetic disorder despite having a karyotype result that appears negative for chromosomal mutations. The main differences between amniocentesis and chorionic villus sampling are the time at which the tests are performed (chorionic villus sampling is usually performed between the 11th-12th gestational week and amniocentesis between the 16th-18th gestational week) and the length of time required to obtain results (a few days for chorionic villus sampling and 2-3 weeks for amniocentesis).

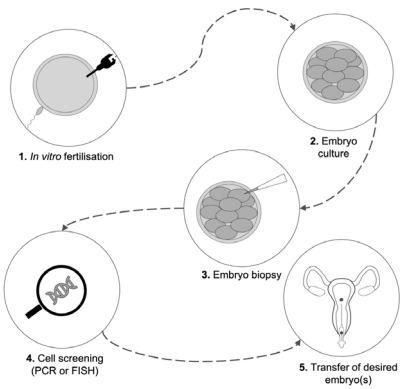
The choice of technique depends on the following factors: gestational week, the likelihood that a chromosomal abnormality is present, and the desired level of confidence in the results, which is influenced by the efficacy and sensitivity of the test.

The reliability of PD varies depending on the technique. The reliability of non-invasive techniques, such as ultrasound, is between 59-80%, while that of invasive techniques, such as amniocentesis and chorionic villus sampling, is close to, although not quite, 100% (99%).

The reliability of the non-invasive technique, maternal blood screening, is 99% but, unlike amniocentesis and chorionic villus sampling, this technique is limited to just a few specific chromosomal abnormalities.

Preimplantation genetic diagnosis (PGD)

PGD is a complementary procedure to PD that detects genetic disorders in embryos generated through medically assisted reproduction*. PGD is used by couples with a high reproductive risk for a given genetic disorder and is carried out at very early stages of embryonic development, before implantation* of the embryo in the uterus. Thus, in contrast to PD tests, PGD tests are not performed during pregnancy, but earlier before the embryo is implanted in the uterus. This allows a choice to be made as to whether or not to implant an embryo presenting a genetic disorder.



PGD is performed through the following steps:

a. Induction of ovulation. Ovulation is artificially induced by ovarian stimulation*. The purpose of this stimulation is to induce the maturation of multiple follicles* in the patient in order to obtain more oocytes and, thus, increase the probability of obtaining embryos to transfer.
b. Oocyte retrieval. This is performed via transvaginal ultrasound. The aspirated fluid is sent to the laboratory for collection of mature oocytes.
c. Medically assisted reproduction. This is the artificial fertilization of the oocyte by male sperm. The technique typically used for artificial fertilization is *Intracytoplasmic Sperm Injection* (ICSI). This technique ensures a greater precision of the fertilization process by injecting sperm directly into the cytoplasm of a single oocyte.
d. Harvesting of embryonic cells. On the third day after fertilization, the embryo usually consists of 6-8 cells. One/two of these cells are collected by introducing a glass micropipette in an opening in the 'zona pellucida' (the wall that surrounds the embryo until the blastocyst* stage) and gently aspirating. This procedure does not interfere with the subsequent development of the embryo.
e. Analysis of harvested cells to test for the presence of genetic mutations associated with the genetic disorder under investigation.
f. Implantation in the uterus of embryos displaying no genetic defects, unless otherwise indicated by the parents.

PGD is able to detect the genetic disorder under investigation in 95% of cases, but fails to detect in 5% of cases[4]. This means that, in the case of a disease with a rate of onset of 1%, the probability that the child who was positive in the PGD test will be born with the disease is 1 in 20 x 1 in 100, i.e., 1 in 2000[5].

GLOSSARY

Allele. One of a pair of genes that appear at a particular location on a particular chromosome and control the same characteristic.

Amniotic liquid. A liquid composed mainly of water, mineral salts, lipids and proteins produced by the placenta and by the membranes that surround the uterine wall in early pregnancy.

Blastocyst. The embryo during the early stages of its development. This phase corresponds to the 5 – 7th day of fertilization.

Chromosome. Elongated filaments present in the nucleus of animal and plant cells, and comprised of a single DNA molecule that holds the genetic information. Members of each species typically have the same number of chromosomes in their cells.

Chronic disease. A stationary or slowly progressive disease.

DNA. Deoxyribonucleic acid, which carries hereditary information and is found almost exclusively in the nucleus of the cell.

Follicle. Spheroidal cellular aggregation present in the ovary that contains the oocyte.

Genome. The set of DNA sequences in the nucleus, including all genes and other sequences.

Genotype. The genetic and hereditary characters of an individual or population that result in a phenotype.

Gestation. The period between conception and birth during which the development of the fetus takes place.

Implantation. Implantation of the fertilized oocyte in the wall of the uterus.

Karyotype. The profile of chromosomes in a cell defined by their number, size, shape and dimension. The karyotype is specific for each species, organism and cell type.

Medically assisted reproduction. All procedures involving the processing of human oocytes, sperm or embryos with the aim of resulting in a pregnancy.

Miscarriage. Miscarriage is the premature termination of a pregnancy. This may be due to natural causes (spontaneous) or induced.

Mutation. A random variation in the genetic makeup of an individual animal or plant that causes a change in protein synthesis and in the transmission of characteristics.

Oocyte. The female gamete.

Ovarian stimulation. Application of a stimulus to the ovaries to stimulate the production of oocytes.

Phenotype. The set of morphological characteristics of an individual, resulting from the interaction between their genetic material and environmental factors.

RNA. Ribonucleic acid is a molecule similar to DNA that is contained in the nucleus and cytoplasm of cells and is required for protein synthesis.

Translocation. The physical movement of genome sequences inside the nucleus that change their position on chromosomes.

FOOTNOTES

[1] This estimation is based on a study according to which there are 347 million people with diabetes mellitus worldwide today (for further information: http://www.who.int/mediacentre/factsheets/fs312/en/).

[2] Invasive diagnosis can be performed in the following cases: a) in women older than 35 years at time of delivery; b) in parents carrying chromosomal translocations or aneuploidy of sex chromosomes; c) in women who previously gave birth to a child with chromosomal abnormalities; d) following detection of fetal malformations by ultrasound scan; e) following a positive nuchal translucency ultrasound scan assessing the quantity of the fluid in the nape of the fetal neck, or a positive triple test biochemical analysis performed on a blood sample, which quantifies the risk of chromosomal abnormalities in the fetus; f) for the detection of infective agents in the amniotic fluid; g) for studies on fetal DNA; h) for the determination of metabolites in the amniotic fluid.

[3] There are some reports indicating a higher risk of miscarriage for chorionic villus sampling with respect to amniocentesis. In reality, the higher rate of miscarriage reflects the higher risk of a spontaneous miscarriage in the first trimester, when chorionic villus sampling is performed. Thus, the two methods carry equivalent risks of miscarriage.

[4] This is due to various factors: i) possible contamination of the sample with foreign material; ii) inability to amplify one of the two alleles for technical reasons, and consequently the mutation is not detected (phenomenon known as Allele Drop Out); iii) mosaicism, when cells derived from the same embryo present different karyotypes. Thus, some cells within an embryo could be normal, while others are mutated. Depending on the precise cells that are sampled, the cytogenetic analysis will give varying results.

[5] Diagnostic error: less than 1%.

4D. *The Comprehension Questionnaire (administered at T2 together with Q2)*

Question 1

Genetic diseases include:
- All chromosomal disorders
- All chromosomal disorders, monogenic/single-gene disorders and multifactorial inheritance disorders
- Only monogenic disorders

Question 2

Genetic tests/analyses are able to:
- Determine only whether a person has a genetic disorder at the time of testing
- Determine only a person's predisposition to developing a specific genetic disorder
- Determine both of the above points, as well as individual genetic variations thereby allowing the selection of the most appropriate treatment for a specific individual

Question 3

Penetrance tells us:
- The relationship between genotype and phenotype for a specific genetic disease in a given population
- The relationship between genotype and phenotype for a specific genetic disease in a specific individual
- How severe a given disease will be in a specific individual

Question 4

Prenatal tests:
- Are performed on the embryo to determine whether it is affected by a specific genetic disorder
- Are performed on the fetus, already implanted in the uterus,

during different stages of pregnancy to determine whether it is affected or not by a specific genetic disorder
- Are performed on the fetus, already implanted in the uterus, during different stages of pregnancy to determine whether it is affected or not by any of the known genetic disorders

Question 5

Preimplantation genetic diagnosis:
- Is performed on the fetus during the second month pregnancy to check for chromosomal abnormalities
- Is performed on embryos, created through various assisted reproduction techniques, before their implantation in the uterus, to test for a given genetic disorder
- Is performed on embryos, created through various assisted reproduction techniques, before their implantation in the uterus to test for multifactorial inheritance disorders.

4E. *The Evaluation Questionnaire (administered at T3 together with the Q3)*

Please fill in the following table expressing your opinion on the experience. Please tick one box for each question.

QUESTIONS	Not at all	Small degree	Moderate degree	High degree	Very high degree
1. Did the discussion promote an attitude of higher respect towards the preferences of the other participants?					
2. Did the discussion prompt your group to reach a consensus?					
3. Did the discussion have an impact on the transformation of your preferences concerning the issue at hand?					
4. How much has the discussion allowed you to express your preferences in an unconstrained way?					

5. Do you think you have been somehow manipulated towards a specific position by the person who supervised the discussion?					
6. How clear were the questions of the questionnaire?					

Do you have any additional comments and/or suggestions? write here

4F. *Results of correct answers to the Comprehension Questionnaire*

N of correct answers	N of students	%	p-value*
0	0	0	0.0001
1	4	1.5	
2	6	2.2	
3	34	12.4	
4	117	42.7	
5	113	41.2	

*: p-value of multinomial distribution test. The multinomial distribution test was used to test the hypothesis that the distribution of answers could originate from random answers.

4G. *Results of the Evaluation Questionnaire*

Question	Answers	All %	Observed (%)	Passively Moderated %	Actively Moderated %	*P**
1	Not at all	0.8	0	1.2	1.3	0.15
	Small degree	2.9	2.5	1.2	5.1	
	Moderate degree	8.7	11.4	4.8	10.3	
	High degree	33.3	27.8	31.3	41.0	
	Very high degree	54.2	58.2	61.4	42.3	
2	Not at all	2.9	1.3	3.6	3.8	0.15
	Small degree	6.3	5.1	6	7.7	
	Moderate degree	21.7	12.7	22.9	30.8	
	High degree	42.9	46.8	44.6	37.2	
	Very high degree	25.8	34.2	22.9	20.5	

Question	Answers	All %	Observed (%)	Passively Moderated %	Actively Moderated %	*P**
3	Not at all	18.8	15.2	26.5	14.1	0.31
	Small degree	43.8	43.0	45.8	42.3	
	Moderate degree	27.5	31.6	18.1	33.3	
	High degree	8.3	8.9	8.4	7.7	
	Very high degree	1.7	1.3	1.2	2.6	
4	Not at all	0.4	0	1.2	0	0.30
	Small degree	1.3	2.5	0	1.3	
	Moderate degree	2.9	3.8	1.2	3.8	
	High degree	16.3	12.7	22.9	12.8	
	Very high degree	79.1	81.0	74.7	82.1	

Question	Answers	All %	Observed (%)	Passively Moderated %	Actively Moderated %	*P**
5	Not at all	90.4	93.7	95.2	82.1	0.011
	Small degree	7.5	3.8	3.6	15.2	
	Moderate degree	0.8	1.2	1.2	0	
	High degree	0.8	1.3	0	1.3	
	Very high degree	0.4	0	0	1.3	
6	Not at all	0.4	0	1.2	0	0.15
	Small degree	0.8	1.3	1.2	0	
	Moderate degree	16.2	24.1	13.3	11.5	
	High degree	51.3	51.9	51.8	50.0	
	Very high degree	31.1	22.8	32.5	38.5	

*P: Fischer's exact test

N=240. Observed, N=79; Passively Moderated, N=83; Actively Moderated N=78

4H. *Scoring matrix for the Questionnaire (Q1 – Q4)*

Question	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	1	2	3	4	5
2	5	4	3	2	1
3	1	2	3	4	5
4	1	2	3	4	5
5	5	4	3	2	1
6	5	4	3	2	1
7	5	4	3	2	1
8	5	4	3	2	1
9	5	4	3	2	1
10	5	4	3	2	1

The scoring matrix, used to evaluate quantitatively the questionnaire is reported. The column "Question" displays the question number. Scores were assigned on a 5-point scale: a score of 5 was given for answers closest to a perspective in favour of freedom in reproduction, while a score of 1 was given for answers most distant from that perspective.

4I. *Comparison between the analysis group and the outlier group at T1*.

Variable	All N (% col)	Analysis group N (% row)	Outlier group N (% row)	p
All	274 (100)	243 (88.7)	31 (11.3)	
Degree				0.02
Philosophy	64 (23.4)	60 (93.7)	4 (6.2)	
Medicine	104 (38.0)	96 (92.3)	8 (7.7)	
Professional	106 (38.7)	87 (82.1)	19 (17.9)	
Age				0.99
<21	124 (45.3)	110 (88.7)	14 (11.3)	
>=21	150 (54.7)	133 (88.7)	17 (11.3)	
Gender				0.40
F	152 (55.5)	137 (90.1)	15 (9.9)	
M	122 (44.5)	106 (86.9)	16 (13.1)	

By analyzing the mean individual change (MIC) between T1 and T2, we identified 31 (11%) students as outliers defined as external to the median range ± (1.5*interquartile range), i.e., score ≤ -6 or score ≥ 6.

Professional degrees: Physiotherapy, Cognitive Sciences, Nursing, and Radiology. p: p-value calculated using the Chi-square test.

5J. *Number of study participants for each time point/group*

Group	Time			
	T1 N	T2 N	T3 N	T4 N (% T1)
Observed	79	79	79	78 (98.7)
Passively Moderated	84	84	84	82 (97.6)
Actively Moderated	80	80	80	75 (93.8)
Total	243	243	243	235 (96.7)

4K. *Results of the Questionnaires (Q1-Q4) at T1-T4*

Answers T1	All (%)	Observed (%)	Passively Moderated (%)	Actively Moderated (%)	P
QUESTION 1					0.447
No answer	1 (0.4)	0 (0)	0 (0)	1 (100)	
Strongly agree	6 (2.5)	1 (16.7)	4 (66.7)	1 (16.7)	
Agree	21 (8.6)	6 (28.6)	8 (38.1)	7 (33.3)	
Neither agree nor disagree	5 (2.1)	0 (0)	3 (60)	2 (40)	
Disagree	66 (27.2)	27 (40.9)	20 (30.3)	19 (28.8)	
Strongly disagree	144 (59.3)	45 (31.2)	49 (34)	50 (34.7)	
QUESTION 2					0.764
Strongly agree	124 (51)	45 (36.3)	41 (33.1)	38 (30.6)	

Answers T1	All (%)	Observed (%)	Passively Moderated (%)	Actively Moderated (%)	P
Agree	77 (31.7)	24 (31.2)	25 (32.5)	28 (36.4)	
Neither agree nor disagree	10 (4.1)	2 (20)	5 (50)	3 (30)	
Disagree	30 (12.3)	7 (23.3)	13 (43.3)	10 (33.3)	
Strongly disagree	2 (0.8)	1 (50)	0 (0)	1 (50)	
QUESTION 3					0.682
Strongly agree	17 (7)	4 (23.5)	8 (47.1)	5 (29.4)	
Agree	40 (16.5)	17 (42.5)	10 (25)	13 (32.5)	
Neither agree nor disagree	30 (12.3)	8 (26.7)	12 (40)	10 (33.3)	
Disagree	77 (31.7)	27 (35.1)	23 (29.9)	27 (35.1)	

Answers T1	All (%)	Observed (%)	Passively Moderated (%)	Actively Moderated (%)	P
Strongly disagree	79 (32.5)	23 (29.1)	31 (39.2)	25 (31.6)	
QUESTION 4					0.633
Strongly agree	41 (16.9)	12 (29.3)	16 (39)	13 (31.7)	
Agree	41 (16.9)	17 (41.5)	15 (36.6)	9 (22)	
Neither agree nor disagree	29 (11.9)	10 (34.5)	10 (34.5)	9 (31)	
Disagree	85 (35)	27 (31.8)	24 (28.2)	34 (40)	
Strongly disagree	47 (19.3)	13 (27.7)	19 (40.4)	15 (31.9)	
QUESTION 5					0.945
Strongly agree	79 (32.5)	25 (31.6)	30 (38)	24 (30.4)	

Answers T1	All (%)	Observed (%)	Passively Moderated (%)	Actively Moderated (%)	P
Agree	79 (32.5)	27 (34.2)	25 (31.6)	27 (34.2)	
Neither agree nor disagree	32 (13.2)	9 (28.1)	11 (34.4)	12 (37.5)	
Disagree	42 (17.3)	13 (31)	16 (38.1)	13 (31)	
Strongly disagree	11 (4.5)	5 (45.5)	2 (18.2)	4 (36.4)	
QUESTION 6					0.184
Strongly agree	64 (26.3)	23 (35.9)	22 (34.4)	19 (29.7)	
Agree	78 (32.1)	18 (23.1)	32 (41)	28 (35.9)	
Neither agree nor disagree	22 (9.1)	12 (54.5)	7 (31.8)	3 (13.6)	
Disagree	52 (21.4)	16 (30.8)	15 (28.8)	21 (40.4)	

Answers T1	All (%)	Observed (%)	Passively Moderated (%)	Actively Moderated (%)	P
Strongly disagree	27 (11.1)	10 (37)	8 (29.6)	9 (33.3)	
QUESTION 7					0.59
Strongly agree	15 (6.2)	6 (40)	6 (40)	3 (20)	
Agree	55 (22.6)	15 (27.3)	18 (32.7)	22 (40)	
Neither agree nor disagree	51 (21)	15 (29.4)	23 (45.1)	13 (25.5)	
Disagree	77 (31.7)	28 (36.4)	24 (31.2)	25 (32.5)	
Strongly disagree	45 (18.5)	15 (33.3)	13 (28.9)	17 (37.8)	
QUESTION 8					0.793
Strongly agree	61 (25.1)	21 (34.4)	18 (29.5)	22 (36.1)	

Answers T1	All (%)	Observed (%)	Passively Moderated (%)	Actively Moderated (%)	P
Agree	74 (30.5)	19 (25.7)	30 (40.5)	25 (33.8)	
Neither agree nor disagree	45 (18.5)	15 (33.3)	17 (37.8)	13 (28.9)	
Disagree	32 (13.2)	13 (40.6)	8 (25)	11 (34.4)	
Strongly disagree	31 (12.8)	11 (35.5)	11 (35.5)	9 (29)	
QUESTION 9					0.859
Strongly agree	108 (44.4)	30 (27.8)	42 (38.9)	36 (33.3)	
Agree	70 (28.8)	23 (32.9)	23 (32.9)	24 (34.3)	
Neither agree nor disagree	21 (8.6)	8 (38.1)	6 (28.6)	7 (33.3)	
Disagree	31 (12.8)	13 (41.9)	8 (25.8)	10 (32.3)	

Answers T1	All (%)	Observed (%)	Passively Moderated (%)	Actively Moderated (%)	P
Strongly disagree	13 (5.3)	5 (38.5)	5 (38.5)	3 (23.1)	
QUESTION 10					0.103
Strongly agree	69 (28.4)	16 (23.2)	30 (43.5)	23 (33.3)	
Agree	64 (26.3)	19 (29.7)	23 (35.9)	22 (34.4)	
Neither agree nor disagree	24 (9.9)	12 (50)	6 (25)	6 (25)	
Disagree	60 (24.7)	24 (40)	13 (21.7)	23 (38.3)	
Strongly disagree	26 (10.7)	8 (30.8)	12 (46.2)	6 (23.1)	

Answers T2	All (%)	Observed (%)	Passively Moderated (%)	Actively Moderated (%)	P
QUESTION 1					0.108
Strongly agree	8 (3.3)	2 (25)	6 (75)	0 (0)	
Agree	22 (9.1)	6 (27.3)	9 (40.9)	7 (31.8)	
Neither agree nor disagree	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	
Disagree	54 (22.2)	23 (42.6)	14 (25.9)	17 (31.5)	
Strongly disagree	159 (65.4)	48 (30.2)	55 (34.6)	56 (35.2)	
QUESTION 2					0.517
Strongly agree	121 (49.8)	38 (31.4)	47 (38.8)	36 (29.8)	
Agree	80 (32.9)	29 (36.2)	20 (25)	31 (38.7)	
Neither agree nor disagree	8 (3.3)	2 (25)	4 (50)	2 (25)	
Disagree	25 (10.3)	6 (24)	11 (44)	8 (32)	
Strongly disagree	9 (3.7)	4 (44.4)	2 (22.2)	3 (33.3)	

Answers T2	All (%)	Observed (%)	Passively Moderated (%)	Actively Moderated (%)	P
QUESTION 3					0.171
Strongly agree	23 (9.5)	6 (26.1)	12 (52.2)	5 (21.7)	
Agree	42 (17.3)	15 (35.7)	8 (19)	19 (45.2)	
Neither agree nor disagree	15 (6.2)	6 (40)	6 (40)	3 (20)	
Disagree	93 (38.3)	34 (36.6)	31 (33.3)	28 (30.1)	
Strongly disagree	70 (28.8)	18 (25.7)	27 (38.6)	25 (35.7)	
QUESTION 4					0.607
Strongly agree	38 (15.6)	12 (31.6)	14 (36.8)	12 (31.6)	
Agree	43 (17.7)	16 (37.2)	15 (34.9)	12 (27.9)	
Neither agree nor disagree	18 (7.4)	7 (38.9)	7 (38.9)	4 (22.2)	
Disagree	93 (38.3)	29 (31.2)	26 (28)	38 (40.9)	
Strongly disagree	51 (21)	15 (29.4)	22 (43.1)	14 (27.5)	

Answers T2	All (%)	Observed (%)	Passively Moderated (%)	Actively Moderated (%)	P
QUESTION 5					0.794
Strongly agree	80 (32.9)	28 (35)	29 (36.2)	23 (28.7)	
Agree	92 (37.9)	26 (28.3)	31 (33.7)	35 (38)	
Neither agree nor disagree	11 (4.5)	2 (18.2)	4 (36.4)	5 (45.5)	
Disagree	47 (19.3)	17 (36.2)	16 (34)	14 (29.8)	
Strongly disagree	13 (5.3)	6 (46.2)	4 (30.8)	3 (23.1)	
QUESTION 6					0.753
Strongly agree	66 (27.2)	19 (28.8)	26 (39.4)	21 (31.8)	
Agree	81 (33.3)	27 (33.3)	28 (34.6)	26 (32.1)	
Neither agree nor disagree	15 (6.2)	4 (26.7)	7 (46.7)	4 (26.7)	
Disagree	52 (21.4)	19 (36.5)	17 (32.7)	16 (30.8)	
Strongly disagree	29 (11.9)	10 (34.5)	6 (20.7)	13 (44.8)	

Answers T2	All (%)	Observed (%)	Passively Moderated (%)	Actively Moderated (%)	P
QUESTION 7					0.09
Strongly agree	23 (9.5)	5 (21.7)	13 (56.5)	5 (21.7)	
Agree	51 (21)	14 (27.5)	24 (47.1)	13 (25.5)	
Neither agree nor disagree	37 (15.2)	14 (37.8)	8 (21.6)	15 (40.5)	
Disagree	87 (35.8)	28 (32.2)	26 (29.9)	33 (37.9)	
Strongly disagree	45 (18.5)	18 (40)	13 (28.9)	14 (31.1)	
QUESTION 8					0.526
Strongly agree	72 (29.6)	24 (33.3)	28 (38.9)	20 (27.8)	
Agree	83 (34.2)	21 (25.3)	29 (34.9)	33 (39.8)	
Neither agree nor disagree	23 (9.5)	7 (30.4)	7 (30.4)	9 (39.1)	
Disagree	47 (19.3)	20 (42.6)	13 (27.7)	14 (29.8)	
Strongly disagree	18 (7.4)	7 (38.9)	7 (38.9)	4 (22.2)	

Answers T2	All (%)	Observed (%)	Passively Moderated (%)	Actively Moderated (%)	P
QUESTION 9					0.524
Strongly agree	102 (42)	30 (29.4)	41 (40.2)	31 (30.4)	
Agree	68 (28)	19 (27.9)	21 (30.9)	28 (41.2)	
Neither agree nor disagree	19 (7.8)	8 (42.1)	6 (31.6)	5 (26.3)	
Disagree	39 (16)	17 (43.6)	10 (25.6)	12 (30.8)	
Strongly disagree	15 (6.2)	5 (33.3)	6 (40)	4 (26.7)	
QUESTION 10					0.247
Strongly agree	79 (32.5)	24 (30.4)	29 (36.7)	26 (32.9)	
Agree	65 (26.7)	13 (20)	28 (43.1)	24 (36.9)	
Neither agree nor disagree	18 (7.4)	8 (44.4)	5 (27.8)	5 (27.8)	
Disagree	54 (22.2)	22 (40.7)	14 (25.9)	18 (33.3)	
Strongly disagree	27 (11.1)	12 (44.4)	8 (29.6)	7 (25.9)	

Answers T3	All (%)	Observed (%)	Passively Moderated (%)	Actively Moderated (%)	P
QUESTION 1					0.355
Strongly agree	12 (4.9)	0 (0)	7 (58.3)	5 (41.7)	
Agree	16 (6.6)	8 (50)	4 (25)	4 (25)	
Neither agree nor disagree	3 (1.2)	1 (33.3)	1 (33.3)	1 (33.3)	
Disagree	46 (18.9)	17 (37)	15 (32.6)	14 (30.4)	
Strongly disagree	166 (68.3)	53 (31.9)	57 (34.3)	56 (33.7)	
QUESTION 2					0.268
Strongly agree	136 (56)	46 (33.8)	49 (36)	41 (30.1)	
Agree	64 (26.3)	22 (34.4)	17 (26.6)	25 (39.1)	
Neither agree nor disagree	7 (2.9)	1 (14.3)	4 (57.1)	2 (28.6)	
Disagree	26 (10.7)	10 (38.5)	8 (30.8)	8 (30.8)	
Strongly disagree	10 (4.1)	0 (0)	6 (60)	4 (40)	
QUESTION 3					0.568
Strongly agree	21 (8.6)	10 (47.6)	6 (28.6)	5 (23.8)	
Agree	55 (22.6)	21 (38.2)	16 (29.1)	18 (32.7)	

Answers T3	All (%)	Observed (%)	Passively Moderated (%)	Actively Moderated (%)	P
Neither agree nor disagree	11 (4.5)	2 (18.2)	4 (36.4)	5 (45.5)	
Disagree	90 (37)	29 (32.2)	30 (33.3)	31 (34.4)	
Strongly disagree	66 (27.2)	17 (25.8)	28 (42.4)	21 (31.8)	
QUESTION 4					0.072
Strongly agree	35 (14.4)	13 (37.1)	12 (34.3)	10 (28.6)	
Agree	58 (23.9)	22 (37.9)	18 (31)	18 (31)	
Neither agree nor disagree	13 (5.3)	7 (53.8)	4 (30.8)	2 (15.4)	
Disagree	81 (33.3)	24 (29.6)	22 (27.2)	35 (43.2)	
Strongly disagree	56 (23)	13 (23.2)	28 (50)	15 (26.8)	
QUESTION 5					0.822
Strongly agree	75 (30.9)	22 (29.3)	29 (38.7)	24 (32)	
Agree	83 (34.2)	27 (32.5)	26 (31.3)	30 (36.1)	
Neither agree nor disagree	20 (8.2)	7 (35)	9 (45)	4 (20)	
Disagree	48 (19.8)	18 (37.5)	13 (27.1)	17 (35.4)	
Strongly disagree	17 (7)	5 (29.4)	7 (41.2)	5 (29.4)	

Answers T3	All (%)	Observed (%)	Passively Moderated (%)	Actively Moderated (%)	P
QUESTION 6					0.802
Strongly agree	64 (26.3)	20 (31.2)	25 (39.1)	19 (29.7)	
Agree	81 (33.3)	25 (30.9)	26 (32.1)	30 (37)	
Neither agree nor disagree	19 (7.8)	8 (42.1)	5 (26.3)	6 (31.6)	
Disagree	46 (18.9)	18 (39.1)	16 (34.8)	12 (26.1)	
Strongly disagree	33 (13.6)	8 (24.2)	12 (36.4)	13 (39.4)	
QUESTION 7					0.391
Strongly agree	22 (9.1)	5 (22.7)	12 (54.5)	5 (22.7)	
Agree	54 (22.2)	17 (31.5)	18 (33.3)	19 (35.2)	
Neither agree nor disagree	26 (10.7)	10 (38.5)	10 (38.5)	6 (23.1)	
Disagree	105 (43.2)	36 (34.3)	29 (27.6)	40 (38.1)	
Strongly disagree	36 (14.8)	11 (30.6)	15 (41.7)	10 (27.8)	
QUESTION 8					0.488
Strongly agree	69 (28.4)	20 (29)	28 (40.6)	21 (30.4)	
Agree	86 (35.4)	28 (32.6)	25 (29.1)	33 (38.4)	

Answers T3	All (%)	Observed (%)	Passively Moderated (%)	Actively Moderated (%)	P
Neither agree nor disagree	22 (9.1)	9 (40.9)	10 (45.5)	3 (13.6)	
Disagree	44 (18.1)	14 (31.8)	13 (29.5)	17 (38.6)	
Strongly disagree	22 (9.1)	8 (36.4)	8 (36.4)	6 (27.3)	
QUESTION 9					0.576
Strongly agree	109 (44.9)	37 (33.9)	38 (34.9)	34 (31.2)	
Agree	64 (26.3)	15 (23.4)	27 (42.2)	22 (34.4)	
Neither agree nor disagree	21 (8.6)	10 (47.6)	5 (23.8)	6 (28.6)	
Disagree	34 (14)	13 (38.2)	9 (26.5)	12 (35.3)	
Strongly disagree	15 (6.2)	4 (26.7)	5 (33.3)	6 (40)	
QUESTION 10					0.382
Strongly agree	99 (40.7)	29 (29.3)	40 (40.4)	30 (30.3)	
Agree	63 (25.9)	19 (30.2)	20 (31.7)	24 (38.1)	
Neither agree nor disagree	15 (6.2)	6 (40)	6 (40)	3 (20)	
Disagree	44 (18.1)	18 (40.9)	14 (31.8)	12 (27.3)	
Strongly disagree	22 (9.1)	7 (31.8)	4 (18.2)	11 (50)	

Answers T4	All (%)	Observed (%)	Passively Moderated (%)	Actively Moderated (%)	P
QUESTION 1					0.77
Strongly agree	7 (3)	2 (28.6)	4 (57.1)	1 (14.3)	
Agree	21 (8.9)	6 (28.6)	6 (28.6)	9 (42.9)	
Neither agree nor disagree	2 (0.9)	1 (50)	1 (50)	0 (0)	
Disagree	49 (20.9)	18 (36.7)	14 (28.6)	17 (34.7)	
Strongly disagree	156 (66.4)	51 (32.7)	57 (36.5)	48 (30.8)	
QUESTION 2					0.525
Strongly agree	123 (52.3)	43 (35)	47 (38.2)	33 (26.8)	
Agree	62 (26.4)	17 (27.4)	18 (29)	27 (43.5)	
Neither agree nor disagree	10 (4.3)	3 (30)	3 (30)	4 (40)	
Disagree	26 (11.1)	11 (42.3)	9 (34.6)	6 (23.1)	
Strongly disagree	14 (6)	4 (28.6)	5 (35.7)	5 (35.7)	
QUESTION 3					0.118
Strongly agree	17 (7.2)	4 (23.5)	9 (52.9)	4 (23.5)	
Agree	50 (21.3)	21 (42)	11 (22)	18 (36)	

Answers T4	All (%)	Observed (%)	Passively Moderated (%)	Actively Moderated (%)	P
Neither agree nor disagree	14 (6)	7 (50)	3 (21.4)	4 (28.6)	
Disagree	100 (42.6)	33 (33)	33 (33)	34 (34)	
Strongly disagree	54 (23)	13 (24.1)	26 (48.1)	15 (27.8)	
QUESTION 4					0.563
Strongly agree	44 (18.7)	17 (38.6)	15 (34.1)	12 (27.3)	
Agree	57 (24.3)	21 (36.8)	16 (28.1)	20 (35.1)	
Neither agree nor disagree	13 (5.5)	5 (38.5)	5 (38.5)	3 (23.1)	
Disagree	75 (31.9)	25 (33.3)	24 (32)	26 (34.7)	
Strongly disagree	46 (19.6)	10 (21.7)	22 (47.8)	14 (30.4)	
QUESTION 5					0.389
Strongly agree	76 (32.3)	19 (25)	31 (40.8)	26 (34.2)	
Agree	78 (33.2)	25 (32.1)	28 (35.9)	25 (32.1)	
Neither agree nor disagree	24 (10.2)	12 (50)	7 (29.2)	5 (20.8)	
Disagree	36 (15.3)	16 (44.4)	9 (25)	11 (30.6)	
Strongly disagree	21 (8.9)	6 (28.6)	7 (33.3)	8 (38.1)	

Answers T4	All (%)	Observed (%)	Passively Moderated (%)	Actively Moderated (%)	P
QUESTION 6					0.915
Strongly agree	66 (28.1)	19 (28.8)	26 (39.4)	21 (31.8)	
Agree	74 (31.5)	25 (33.8)	24 (32.4)	25 (33.8)	
Neither agree nor disagree	19 (8.1)	9 (47.4)	6 (31.6)	4 (21.1)	
Disagree	46 (19.6)	16 (34.8)	16 (34.8)	14 (30.4)	
Strongly disagree	30 (12.8)	9 (30)	10 (33.3)	11 (36.7)	
QUESTION 7					0.021
Strongly agree	16 (6.8)	3 (18.7)	9 (56.2)	4 (25)	
Agree	58 (24.7)	11 (19)	27 (46.6)	20 (34.5)	
Neither agree nor disagree	28 (11.9)	11 (39.3)	12 (42.9)	5 (17.9)	
Disagree	92 (39.1)	36 (39.1)	22 (23.9)	34 (37)	
Strongly disagree	41 (17.4)	17 (41.5)	12 (29.3)	12 (29.3)	
QUESTION 8					0.128
Strongly agree	58 (24.7)	16 (27.6)	26 (44.8)	16 (27.6)	
Agree	84 (35.7)	25 (29.8)	31 (36.9)	28 (33.3)	

Answers T4	All (%)	Observed (%)	Passively Moderated (%)	Actively Moderated (%)	P
Neither agree nor disagree	20 (8.5)	10 (50)	7 (35)	3 (15)	
Disagree	49 (20.9)	20 (40.8)	9 (18.4)	20 (40.8)	
Strongly disagree	24 (10.2)	7 (29.2)	9 (37.5)	8 (33.3)	
QUESTION 9					0.892
Strongly agree	98 (41.7)	34 (34.7)	37 (37.8)	27 (27.6)	
Agree	74 (31.5)	21 (28.4)	26 (35.1)	27 (36.5)	
Neither agree nor disagree	17 (7.2)	6 (35.3)	5 (29.4)	6 (35.3)	
Disagree	36 (15.3)	13 (36.1)	10 (27.8)	13 (36.1)	
Strongly disagree	10 (4.3)	4 (40)	4 (40)	2 (20)	
QUESTION 10					0.851
Strongly agree	91 (38.7)	30 (33)	32 (35.2)	29 (31.9)	
Agree	62 (26.4)	20 (32.3)	25 (40.3)	17 (27.4)	
Neither agree nor disagree	14 (6)	3 (21.4)	6 (42.9)	5 (35.7)	
Disagree	55 (23.4)	21 (38.2)	14 (25.5)	20 (36.4)	
Strongly disagree	13 (5.5)	4 (30.8)	5 (38.5)	4 (30.8)	

CONCLUSION
Deliberative Moderators and Public Bioethical Experts: What Have We Learned?

In this volume, I have attempted to reconstruct the – theoretical as well as empirical – processes of cross-pollination between deliberative democracy and public bioethics.

Since the 1990s, deliberative democracy has been the focus of increased scholarly attention, as well as the locus of initiatives intended to directly engage the public in matters of public concern. Geared to bring the core tenets of public deliberation to bear on different contexts within the public sphere, deliberative processes have been implemented in various forms, from citizens' juries to national issue forums, and from deliberative opinion polls to participatory budgeting.

Ever more frequently, public deliberation has also gained traction in the field of public bioethics. Scholars have proposed to harness deliberative processes as means to address moral disagreements in the public sphere, so as to manage the ensuing and oftentimes irreconcilable conflicts riddling contemporary liberal democracies around topics of bioethical sensitivity.

Building on these premises, I designed a large-scale, empirical study for exploring and testing the value of *deliberative public bioethics*. Specifically, this took the form of a "validated laboratory experiment", devised in line with Fung's well-known "minipublics" and according to results obtained through two preliminary surveys. The topic under debate was the issue of genetic testing in reproductive contexts.

The novelty of the experiment proposed here pertains to the ethical nature of the topic under investigation – minipublics are in fact typically devoted to the discussion of genuinely political topics – but also to the exploration of the role of the bioethical expert in

the guise of the so-called "(active) moderator of deliberation". With respect to this latter issue, the experiment investigated whether, and to what extent, different figures (active moderator, passive moderator, and observer) – including their various moderation styles – impacted particular deliberation outcomes. In so doing, the ultimate aim of this work is to reflect on the potential role of the bioethical expert in deliberative public bioethics settings, thus addressing a crucial yet still under-theorized issue in political and moral philosophy, public bioethics and political science debates.

In these concluding remarks, I take stock of the journey conducted in this volume to further reflect on the nexus between deliberative moderation and bioethical expertise, thus trying to better clarify what the empirical investigation described in this volume can teach us about public bioethical experts, notably in relation to not only the distinction between "Ethical Experts" and "Moral Experts", as discussed at the end of Chapter 1, but also the normative account of public ethical experts as "Active Moderators", reported in Chapter 4.

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In political science, the role of the so-called moderators has been recognized as crucial, as they serve the purpose of fostering negative deliberative values, such as non-domination and non-interference, allowing the creation of the basic conditions for political equality (see Chapter 3).

Ideally, as public bioethics is a domain rife with substantive moral disputes (i.e., deep disagreements), a proactive figure helping non-experts to develop their own preferences might be advantageous – in terms of both internal consistency (logical coherence) and external consistency (awareness of the consequences), rather than just someone who monitors and ensures the adherence to freedom of speech and equal participation.

Accordingly, I devised and tested the traditional figures of the Observer and the Passive Moderator, but also considered the role and possible input of an Active Moderator, conceived as someone who promotes a specific set of positive values.

By drawing on the comprehensive review regarding moderators

as reported in Chapter 3, the laboratory study presented in Chapter 4 comprised three arms: i) Observed; ii) Passively Moderated; iii) Actively Moderated.

In the Observed arm, a supervisor was present but silent and did not intervene in the discussion.

In the Passively Moderated arm, the supervisor acted as a promoter of some "negative" deliberative values. By "negative deliberative values", I refer to those values informing attempts to prevent group dynamics (e.g., interference, domination). Accordingly, these values may be defined as "negative" because rather than promoting some actions/behaviours they try to limit and/or impede actions and/or behaviours (e.g., try to limit domination dynamics within the group).

In the Actively Moderated arm, the supervisor acted as a promoter of both positive and negative deliberative values. By "positive deliberative values", I refer to those values that, rather than simply limiting some dynamics, try to promote certain additional behaviours which should facilitate cooperation among group participants (e.g., promote public-spiritedness, mutual respect, etc.).

As demonstrated in Chapter 3, both Passive Moderators and Active Moderators were appointed to ensure "deliberation quality" (Fulwider 2005), promoting, albeit differently, a principle of political equality (Smith 2009). However, while political equality was interpreted as "inclusion of people" (Young 2000) in the Passively Moderated arm, in the Actively Moderated arm the same notion was interpreted as both "inclusion of people" and "inclusion of arguments" (Dryzek and Niemeryer 2008). This means that Passive Moderators acted to "ensure that all the voices are heard in the debate", giving all participants, even the more reluctant ones, a chance to speak, while at the same time intervening to minimise or prevent domination dynamics. Conversely, besides performing all the functions attributed to Passive Moderators, Active Moderators also acted to ensure that all the *arguments* in favour of and against to a specific viewpoint, as well as all the perspectives present within the debate on the topic under discussion (in this case, genetic testing in reproductive contexts), were explicitly pointed out during the small-group discussion.

This fundamental difference in interpreting internal inclusion as inclusion of people or arguments laid the basis for another distinction between these two moderation styles and corresponding figures. As shown in Chapter 3, extensive disagreement exists not only in the interpretation of political equality as internal inclusion, but also in relation to the kind of expertise deliberative moderators are supposed to possess, whether only procedural or also substantive. Moore, for instance, when discussing the attempt to safeguard the principle of "informational equality" (2012), rejects the idea that moderators are also substantive experts: "facilitation involves the challenge of introducing a level of informational equality and ruling out obvious falsehoods, without introducing deliberative actors who have far more epistemic authority than the other participants, and without having a vested interest" (Moore 2012, p. 152). Chilvers, on the other hand, claims that substantial expertise may be necessary, at least in some contexts, in order to ensure equal representation of a plurality of views (2008).

Against this backdrop, Passive Moderators needed to have only *procedural* expertise in deliberative moderation, including, for instance, the ability to keep the group focused on its objective, to distinguish between legitimate and illegitimate interactions (e.g., domination episodes), etc. In addition to procedural expertise, Active Moderators also needed to have *substantive* expertise, that is, expertise in the topic discussed. Indeed, Active Moderators lacking such expertise – involving, in this case, *ethical issues related to reproductive genetics* – would have been incapable of safeguarding the principle of internal inclusion, understood in its thick connotation of inclusion of arguments. Without substantive expertise, Active Moderators would have been unable to detect incomplete or partisan arguments in discussions within small groups.

Moreover, Active Moderators were appointed not only to ensure internal inclusion in the two senses reported above, but also to promote several additional deliberative values and to perform three other main functions. Drawing on the informative materials provided at the beginning of deliberation, Active Moderators were asked to *enhance non-experts' autonomy*, which they did by asking participants to reflect on the issue under debate and its ethical

implications, by prompting them to elaborate and express their preferences on the matter, while exercising self-reflection, critical thinking, and critical reasoning throughout the whole deliberative process. The second function of Active Moderators was to *promote public-spirited perspectives.* They did so by educating participants about pluralism awareness, and about the corresponding attitude of mutual respect, thus potentially challenging the limited generosity (Gutmann and Thompson 2004, pp. 10-11) and openness of those taking part in the debates. The last function of Active Moderators was to ensure *equal participation*, interpreted as inclusion of people and arguments. This they achieved by acting as *mediators* promoting a cooperative, positive atmosphere amongst participants, but also by drawing attention to arguments and perspectives marginalised or not raised by participants themselves during peer-to-peer discussions.

In our design, the Active Moderator was conceived as a public bioethicist or, rather, as a public bioethical expert, as we explicitly wanted to identify a potential role for public bioethical experts as *ethical experts and deliberative facilitators*, not as moral experts (Sanchini 2015).

As reported in the bioethics literature on the topic, this distinction refers to the fact that, according to most, bioethical experts possess substantive knowledge and procedural skills; these do not so much legitimise them to decide *for others*, but enable them to help others to decide *for themselves* – i.e., by fostering the formation of participants' considered preferences (Dryzek 2001, Hendriks 2006) (see also Chapter 1).

My intuition – and corresponding hypothesis – as experimenter conceiving and structuring the deliberative experiment was that our Active Moderator (and, in turn, our public bioethical expert) would have promoted the deliberative values related to the functions this figure was asked to perform better than the other two figures, the Observer and the Passive Moderator. To empirically probe this assumption, I designed and implemented quantitative tools as well as qualitative ones.

First, since our lab experiment consisted of a Randomized Controlled Trial, it was designed according to a robust statistical

methodology. The endpoint of the study was defined as the shift of preferences towards the "Principle of Permission" (PoP), a non-substantive negative principle interpretable as "non-interference", and considered by Engelhardt as the most fitting principle for a "secular bioethics", i.e., the contemporary bioethical reflection characterised by deep moral disagreement. I justified this choice on the basis that a shift of preferences towards the PoP is consistent with the purposes that proponents of deliberative democracy have attributed to deliberation itself, in particular *pluralism awareness*, i.e., to make people aware that the public arena is a domain dominated by moral pluralism, and *pluralism recognition*, i.e., that pluralism-oriented discussions and decision-making strategies to cope with it should be put in place (see Ch. 4, §2). To quantitatively estimate the shift, we developed a 5-point Likert scale. A score of 5 was attributed to answers closest to PoP as non-interference. The quantitative outcome of the study was the mean individual change (MIC) towards (or away from) a perspective in line with PoP with respect to the use and implications of genetic testing in the context of reproduction at the time points, T2, T3 and T4, relative to the baseline, T1 (more details are reported in Ch. 4, §3.2.3 and Appendix 4H).

Our experimental findings show a significant difference ascribable to the presence of Passive Moderators *vs*. Active Moderators in the discussion groups. While in the Passively Moderated setting there was a clear significant shift towards PoP, the same did not occur in the Actively Moderated groups. This means that participants tended to shift their preferences in a statistically significant manner, thus embracing more pluralism-oriented perspectives only in those settings in which moderators acted as guarantors of inclusion of people, allowing all participants a chance to speak, while curbing talkative ones.

Second, in the questionnaire devised to test some more qualitative aspects of the trial, just at the end of deliberative sessions (after T2), participants' views were collected. Participants belonging to the Passively Moderated arms reported their appreciation towards the figure who supervised their groups, while some participants belonging to the Actively Moderated arm reported expressions of concerns towards their supervisors, sometimes stating that

they had had the impression of having been influenced or even manipulated during discussion by the moderating figures.

It can be concluded, then, that the presence of a non-corrective figure (the Passive Moderator) was beneficial in promoting the purposes of deliberation, in particular pluralism awareness. Notably, the Passive Moderator appeared as more beneficial than the Observer, as was to be expected, but also as more beneficial than the Active Moderator, as I did not anticipate, in terms of quantitative measurable outcomes, as well as, subjectively, as qualitatively reported by participants.

We can only speculate about why this is the case. One possible explanation is that people are more willing to consider different perspectives when they come from their peers rather than from a superior figure. In other words, the corrective (albeit non-directive) role of the Active Moderator might have induced a defensive attitude, which, in turn, produced the rejection rather than the acceptance of a deeper consideration of their initial preferences.

There is evidence that individuals are more prone to accept positions and arguments that are in line with their pre-existing beliefs (Himmelroos and Christensen 2013). Indeed, although from a theoretical viewpoint being exposed to dissimilar views might be beneficial for deliberation (Calhoun 2002; Mutz 2002; Manin 2005;), several concerns have been raised regarding its practicability. Evidence from spontaneously occurring deliberation shows that people prefer to discuss with likeminded people (Mutz 2006). Huckfeldt and colleagues suggest that this human trait may be ascribed either to the human desire of reducing information costs or to the psychic discomfort that encountering disagreement may produce (Huckfeldt et al. 2004). In this respect Gerber has commented that "in case of disagreement, people might not necessarily be inclined to confront the dissent with a counter claim, but rather opt for an escape strategy" (Gerber 2011, pp. 4-5). These considerations might explain why the passively moderated group showed a significant effect *vs*. the actively moderated one.

The role of the Passive Moderator was simply intended to prompt equal contribution by encouraging silent participants to speak or by slowing down too dominant ones (Young 2002). The Active Moderator, conversely, may have been disruptive by

prompting reflection on expressed preferences and by pointing to different viewpoints and to their likely consequences.

While the Passive Moderator did not question participants' preferences, the Active Moderator did, not by challenging their substantive views, but by showing, for instance, that the conclusions drawn were not consistent with the argument's premises. It is possible to argue, then, that for participants in Passively Moderated groups it was easier to conform to a viewpoint more in line with PoP, because they were not induced to develop a defensive attitude or to opt for an escape strategy.

A similar, complementary explanation is that even though both the Active and Passive Moderators were designed so as not to be directive, the Active Moderator was perceived by participants as a directive, *non-neutral* figure. As reported in Chapter 3, in political science debates the concept of neutrality in moderation may be interpreted as a "thin" or "thick" notion. According to the former, being neutral means being *impartial*, implying that moderators should not endorse any viewpoint during discussion. Infringements of this first account of neutrality may even occur when moderators make use of bodily gestures suggesting their preferences. According to a thick account of neutrality, this is interpreted as *positional equality*, meaning that, ideally, moderators should not have a privileged position but should act as peers amongst peers. In our study, we endorsed neutrality as impartiality, taking this concept very seriously, by investing consistent effort in training moderators as neutral figures (see Appendix 4A).

As our evidence with respect to neutrality suggests, however, participants tended to set a very high threshold between neutral and unneutral behaviour, where the mere fact of intervening during discussion to rectify a formal fallacy (i.e., a mistake regarding the logical structure of the argumentation) or a factual mistake (i.e., an error as to the data underpinning a specific ethical argument) was perceived by participants as manifestation of directive, unneutral, behaviour. Whether this result appears in line with the findings of similar studies is difficult to say, because existing empirical contributions do not provide a sustained analysis or evaluation of highly sophisticated models of moderation (or different functions corresponding to different moderation styles), most often testing

moderated vs unmoderated settings only (see, for instance, Fulwider 2005). A valuable exception is represented by the study of Farrar and colleagues (2009), whose results are in line with our findings (see Chapter 3).

How, then, should we interpret these results in light of the debate over bioethical expertise? In other words, what do these results suggest to us regarding the normative model we proposed of rethinking public bioethical experts as Active deliberative moderators? At a first glance, from a bioethical perspective, the failure of active moderation might be considered as disappointing. In principle, there were reasonable theoretical justifications to entertain this idea. In particular, and even though public bioethics bodies are already widespread, the role of the bioethical expert in the public arena has not yet been standardised and/or institutionalised. Moreover, because of their composition, public bioethics bodies are at risk of being epistocratic, thus failing to sincerely mediate between non-experts' needs and institutional requests (Doods and Thomson 2006; Moore 2010). Finally, although deliberative democracy ideals are paramount for public bioethics, these remain frequently under-expressed[1].

Actually, our results are not fully surprising if interpreted in light of the broader debate on the role of public bioethics and public bioethics bodies, whether advisory or policy-making (Black 1998; Doods and Thomson 2006; Trotter 2006). As extensively reported in Chapter 2, many scholars have claimed that the role for public bioethics in embedding deliberative ideals – a deliberative public bioethics – is that of mediating discussion on contentious ethical issues of public relevance (Moore 2010). Accordingly, public bioethics should play a *preparatory* role in opening up and facilitating public debate (Doods and Thomson 2006), clarifying, if necessary, moral concepts and facilitating cooperation (Trotter 2006).

1 Indeed, traditional moderators, as described in political science, are not usually given reasonable latitude of intervention in the execution of their function, whereas an empowered version of the traditional moderator, the Active Moderator, would be able to fulfil the reason-giving requirement and to promote autonomy.

The prudent approach is therefore to take our results at face value and to consider our experiment as preliminary evidence of the notion that public bioethical experts conceived as proactive figures, endowed with a substantive expertise, are not beneficial to the promotion of deliberative values in the *discussion phase* of deliberative processes, where less proactive and interfering figures such as Passive Moderators are shown as more appropriate and respondent to participants' wishes. This does not imply, however, that the *pre-deliberation phase* can be constructed in the absence of expertise: the preparation of information materials and questionnaires requires the knowledge and skills of bioethical experts as professionals who have substantive expertise. Splitting substantive from procedural expertise, or assigning different roles to different figures, is also in line with some already existing proposals in the literature (see Ch. 2, § 4.2). Because most of the topics under debate involve complex issues, the question is what is the best strategy for enabling participants to acquire the necessary substantive expertise to properly interact amongst each other as competent interlocutors, while not infringing on requirements of neutrality. A possible solution in this direction may be to introduce bioethical experts as substantive experts at the beginning of the process, prior to deliberative discussion, while deploying Passive Moderators with procedural expertise as small groups moderators.

A final question pertains to what these findings may teach us in relation to the practice of deliberative facilitation as carried out by public bioethics bodies (see Ch. 2). Although facilitation has been conceptualised precisely as a reaction to the potential pitfalls of substantive ethics expertise, my impression is that facilitation as conceptualised in the current literature still appears as too thick a practice, more akin to our Active Moderator in its intentions: articulating and structuring public debates, translating difficult expert topics into plain language, enabling communication between holders of otherwise irreconcilable views, finally acting as a bridge between institutions and citizenry. Facilitation so conceived still appears as an "expert vs. non-expert interaction" rather than a "peer-to-peer interaction". Our experimental findings may then prompt us to rethink public bioethics bodies' facilitation

as a *thinner* practice, appointed not to collect and interpret the normativity behind non-experts' intuitions (Kim et al. 2009), but rather to contribute to the creation of spaces and occasions for peer-to-peer interaction, in the full respect of political equality.

In 2012, in one of his contributions in *Critical Policy Studies*, Alfred Moore stated that the practice of deliberative facilitation warranted further analysis and investigation by deliberative democrats. By showing the significance of the problems arising from the complex interrelations between expertise, deliberative facilitation, and bioethical knowledge, including their impact on public decision-making, I hope to have contributed to a better and more refined conceptualisation of this fascinating practice.

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ACKNOWLEDGMENTS

Many are those who contributed to the design, organisation, and conduct of the experiment.

As for the Main Study, I wish to acknowledge Marco Annoni, Federico Boem, Luca Chiapperino, Giuseppe D'Agostino, Giulia Ferretti, Ilaria Galasso, Regina Gregori Grgic, Maria Nicolaci, and Mario Sanchini, for having devoted their time and expertise in the moderation of the participants within deliberative sessions, as well as Emanuela Orlando and all the technicians of the Istituto Firc di Oncologia Molecolare (IFOM) for having helped me in the huge organisational work propaedeutic to the study.

As for the Preliminary Surveys, I wish to acknowledge all the professors from the University of Milan, faculty of Medicine, Literature, Philosophy and Political Science, as well as those of the Politecnico di Milano, who allowed me to collect eighty-hundred questionnaires in their classes during their lectures.

I must also mention the people who had a crucial role in helping me to conceive and/or realise my experiment: Paolo Spada, who guided me in the fascinating world of deliberative experiments with extraordinary competence and limitless passion; Sarah Songhorian, for her steady support and intellectual as well as practical help in every stage of the experiment; Davide Disalvatore, for having assisted me with all the statistical preparation of the experiment; and David Teira, for his always precious advice.

Most importantly, I owe a debt of gratitude to Pier Paolo Di Fiore, who, from the very beginning, believed in what was at the time just a rough intuition, and helped me to realize it day after day. To Pier Paolo then, amongst all, goes my most sincere gratitude.

Finally, my most sincere thanks go to Roberta Sala and Massimo

Reichlin, who, besides their enduring support throughout the years, have encouraged me for a long time to publish this work.

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Printed by
Puntoweb s.r.l. – Ariccia (RM)
September 2022