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*ORGANISED MATTER, MNEME, ENGRAM*

In a passage from the preparatory notes to the lecture on the serpent ritual Warburg notes: «The problem so successfully formulated by Hering: “memory as organized matter” must be addressed through the means of my library»<sup>1</sup>. It is through a long and intense confrontation with the theories of the neurophysiologist Ewald Hering (1834-1918) on memory as organised matter that the question raised by the late Warburg about the essential link that binds cultural expression in its infinite facets to memory (individual and collective) is clarified – a question entrusted above all to the unfinished *Mnemosyne* project. But this confrontation does not exclusively characterise the theoretical concerns of the late Warburg. It had been initiated long before: traces of it can be found not only in the *Fragment on the Nymph* (1900), but also in the *Grundlegende Bruchstücke zu einer pragmatischen Ausdruckskunde* from the 1890s: traces that testify to an interest that remained constant throughout his reflections.

Attempting to circumscribe the general sense of the debt Warburg owed to Hering in the first place, and then to his follower Richard Semon (1859-1918, a theorist who provided Warburg’s theory of expression with fundamental categories such as *Mneme* and *engram*), is an unavoidable task for those who wish to understand Warburg’s conception of a collective memory of images, and also to grasp its critical points.

This debt should be further contextualised in that European cultural milieu of the late 19th and early 20th century that was particularly sensitive to the problematisation of the collective mnemonic inheritance (in addition to Freud and Jung, we can mention the heterogeneous names of W.B. Yeats, L. Hearn, S. Butler, R.M. Rilke, A. Moeller van den Bruck, J. Burckhardt, E. Haeckel, A. Forel, B. Russell S. Butler, E. Mach), and that found in the theories of Durkheim’s pupil Maurice Halbwachs (developed in the 1920s, and

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<sup>1</sup> A. WARBURG, *Bilder aus dem Gebiet der Pueblo-Indianer in Nord-Amerika. Vorträge und Fotografien*, ed. by U. Fleckner, De Gruyter, Berlin - Boston 2018, p. 114 (my translation).

therefore at the same time as Warburg's research around *Mnemosyne*) the elaboration of one of the most coherent conceptions of the problem of collective memory.

## I. WARBURG AND HERING

Hering had expounded his fundamental ideas on memory in his famous 1870 lecture *Über das Gedächtnis als eine allgemeine Funktion der organisierten Materie* (On memory as a general function of organised matter)<sup>2</sup>, a text that exerted a pervasive influence on European culture in the late 19th and early 20th century.

On the basis of a functional conception of the relationship between matter and spirit, Hering sets the question of memory as a fundamental reproductive property of organic beings. The nervous substance of each organism retains traces of its experiences, and passes them on as an inheritance to subsequent generations, just as it itself has received a heritage of traces from previous generations. Of this process, which materially links each individual – from the most elementary animal to man – to an infinite chain of beings that have preceded him and that will follow him, the individual himself is not aware; that is, the process takes place according to an unceasing continuity in an unconscious manner:

An organised being, therefore, stands before us a product of the unconscious memory of organised matter, which, ever increasing and ever dividing itself, ever assimilating new matter and returning it in changed shape to the inorganic world, ever receiving some new thing into its memory, and transmitting its acquisitions by the way of reproduction, grows continually richer and richer the longer it lives<sup>3</sup>.

In Hering's argumentation I would like to enucleate a few points that I feel are relevant to the perspective developed by Warburg, who had encountered his ideas during the summer semester of 1892 at Berlin University while attending Hermann Ebbinghaus's course in psychology.

### *1.1 Spiritual and material as mutual functions*

Hering sets out to understand “the mutual interdependence between the spiritual and the material” as the ground where the science of matter and the science of consciousness

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<sup>2</sup> E. HERING, *Über das Gedächtnis als eine allgemeine Funktion der organisierten Materie, Vortrag gehalten in der feierlichen Sitzung der Kaiserlichen Akademie der Wissenschaften in Wien am XXX. Mai MDCCCLXX*, 3rd edition in Id., *Fünf Reden*, W. Engelmann, Leipzig 1921, pp. 5-31.

<sup>3</sup> I quote from the English translation in S. BUTLER, *Professor Ewald Hering on “Memory”*, in Id., *Unconscious Memory*, Fifeild, London 1910, pp. 63-86, here pp. 80-81.

converge: «The phenomena of consciousness become functions of the material changes of organised substance, and inversely [...] the material processes of brain substance become functions of the phenomena of consciousness»<sup>4</sup>, considering the two variables (matter and consciousness) as functions of each other as they are dependent on each other, such that changes in one simultaneously and correlatively imply changes in the other.

Warburg, too, made explicit use of the term “function” (in the double spelling: *Function* or *Funktion*), which in the light of Hering’s pages seems to take on a sense that is not generic but technical. In the *Grundlegende Bruchstücke*, we find an annotation dated 4 April 1897, in which reference is made to the «conscious or unconscious function of memory (organised memory)»<sup>5</sup>. Also Warburg’s fragment on the Nymph from 1900 includes an allusion to Hering’s ideas: «The memory of Antiquity as a function of organised matter»<sup>6</sup>.

If we move on from these early hints to the 1920s, we find, for example in *Bayonne* (1927), a note on the «task of social memory» as a «mnemonic function»<sup>7</sup>. In the lecture given in the spring of 1928 at the *Handelskammer* in Hamburg, a characterisation of the Library’s prerogatives as an attempt to «point to the function of European collective memory as a formative force for the emergence of styles»<sup>8</sup>.

### 1.2 Spirit as «mirror» and «image» of matter

Given the law of the functional interdependence of matter and consciousness, according to Hering the researcher will be led – by observing how one representation originates another representation, how representations are intimately connected to sensations and volitions, how feelings and thoughts are inextricably intertwined – to assume corresponding sets of material processes: «What matter will not reveal to his inquiry, he will find in the mirror [*im Spiegel*], as it were, of consciousness; by way of an

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<sup>4</sup> Ivi, p. 66.

<sup>5</sup> A. WARBURG, *Fragmente zur Ausdruckskunde (1888-1912)*, ed. by U. Pfisterer, H. Ch. Hönes, De Gruyter, Berlin - Boston 2015. annotation dated 4 April 1897. In a note dated 23 March 1899 Warburg implicitly refers to Hering alluding to a «*Gedächtnisorganisation*».

<sup>6</sup> A. WARBURG, *Ninfa Fiorentina* (1900), quoted in E. H. GOMBRICH, *Aby Warburg. An Intellectual Biography*, The Warburg Institute - University of London, London 1970, p. 241.

<sup>7</sup> A. WARBURG, *Bayonne, Notizbuch 1927*, quoted in E. H. GOMBRICH, *Aby Warburg*, cit., p. 250.

<sup>8</sup> A. WARBURG, *Handelskammer, Notizbuch 1928*, quoted in E. H. GOMBRICH, *Aby Warburg*, cit., p. 270 (translation modified).

image [*im Bilde*], indeed, only, but an image, nevertheless, which stands in intimate relation to the object of his inquiry»<sup>9</sup>.

Warburg also employs the figures of the image and the mirror. Again in the *Handelskammer* lecture we read: «The variations in rendering, seen in the mirror of the period [*im Spiegel der Zeit*], reveal the conscious or unconscious selective tendencies of the age and thus bring to light the collective psyche that creates these wishes and postulates these ideals»<sup>10</sup>.

Let's consider also that Hering explicitly refers in his lecture to written and oral literary traditions as the “memory of man [*Gedächtnis der Menschheit*]”<sup>11</sup> in only a secondary sense, i.e. primarily dependent on the material memory of the nervous substance, which preserves and reproduces not only the most archaic and elementary physical needs (such as hunger and the reproductive instinct), but also the higher processes of consciousness, such as conceptualisation in its various degrees, which makes those traditions possible and which is certainly not due to the work of the individual, but to the effort of thousands of years made by the brain substance of countless ancestors.

Warburg seems to have taken it upon himself to complete on the figurative-imaginal side this nod limited to the literary, thus taking Hering seriously and to the letter where he writes, as we have seen, that material processes are often seen by the researcher only “by way of an image [*im Bilde*]”. Warburg's iconology (in the extended sense of the theory of culture from the perspective of image theory) then presents itself at the same time as a history of matter reflected in art as mirror or image.

### *1.3 Instinct as an achronological point between the spiritual and the material*

The history of matter helps us to understand the history of instincts and habits at the same time: “

We are accustomed – Hering argues – to regard these surprising performances of animals as manifestations of what we call instinct, and the mysticism of natural philosophy has ever shown a predilection for this theme; but if we regard instinct as the outcome of the memory or reproductive power of organised substance, and if we ascribe a memory to the race as we already ascribe it to the individual, then instinct becomes at once intelligible<sup>12</sup>.

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<sup>9</sup> Quoted in S. BUTLER, *Professor Ewald Hering on “Memory”*, cit., p. 67-68 (translation modified).

<sup>10</sup> A. WARBURG, *Handelskammer, Notizbuch 1928*, quoted in E. H. GOMBRICH, *Aby Warburg*, cit., p. 270-271.

<sup>11</sup> Quoted in S. BUTLER, *Professor Ewald Hering on “Memory”*, cit., p. 85.

<sup>12</sup> Quoted in S. BUTLER, *Professor Ewald Hering on “Memory”*, cit., p. 82.

Hering gives the example of the liberation of the butterfly from the larva: «When, in accordance with its instinct, the caterpillar becomes a chrysalis [*Das Tier handelt, wenn es seinem Instinkte folgt, wenn es als Raupe sich verpuppt*]»<sup>13</sup>, it acts consciously and not as a blind machine. The *Verpuppung* of the *Raupe* would become in Warburg the liberation of the Florentine Renaissance from the constraints of the Burgundian style: «From the tight Burgundian cocoon springs the Florentine butterfly [*Aus der engumspunnenen burgundischen Raupe entpuppt sich der florentinische Schmetterling*], the “nymph,” decked in the winged headdress and fluttering skirts of the Greek maenad or of the Roman Victoria»<sup>14</sup>.

Despite any progress or evolution, Hering emphasises the fundamental elementariness of the primary needs that unite man to the simplest and most archaic organism as an insuperable basis of life determining impulses and instincts that have «still paramount power over the minds of men»<sup>15</sup> and act with the power of an «elementary violence [*Elementargewalt*]». This view provides Warburg with a confirmation of his hypothesis of a past that does not pass, of his critique of the idea of progress that is at the heart of his biological theory of the image.

In the *Introduction* to *Mnemosyne*, Warburg underlines the inadequacy of the progressive historical-chronological paradigm for the understanding of the processuality inherent in images. In particular for that very important moment consisting of the «restitution of antiquity», Warburg writes that such a paradigm «remains an inadequate descriptive evolutionary theory unless one is at the same time prepared to descend into the deep human spiritual compulsion to become enmeshed in the timeless strata of the material [*achronologisch geschichteten Materie*]»<sup>16</sup>.

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<sup>13</sup> Ivi, p. 83.

<sup>14</sup> A. WARBURG, *Italian Art and International Astrology in the Palazzo Schifanoia, Ferrara* (1912), in Id., *The Renewal of Pagan Antiquity. Contributions to the Cultural History of the European Renaissance*, English translation by D. Britt, Getty Research Institute for the History of Art and the Humanities, Los Angeles 1999, pp. 563-591, here p. 585. See also A. WARBURG, *On Imprese Amoroze in the Earliest Florentine Engravings* (1905), ivi, pp. 169-184, here p. 176: «The antique butterfly has emerged from the Burgundian chrysalis [*hat der antike Schmetterling die burgundische Larve gesprengt*]».

<sup>15</sup> Quoted in S. BUTLER, *Professor Ewald Hering on “Memory”*, cit., p. 85.

<sup>16</sup> A. WARBURG, *The Absorption of the Expressive Values of the Past* (1929), English translation by M. Rampley, «Art in Translation», I, 2 (2009), pp. 273-283, here p. 279.

#### 1.4 The circulation of saps and the economy of the mnestic trace

Hering points out that certain properties of an organism can be passed on to the organism that descends from it, even though they were not themselves inherited by the organism itself, but acquired in relation to the circumstances in which it lived: each organism can thus pass on to its successor a «small heritage» that is added to the «gross inheritance of its race»<sup>17</sup>. This guarantees, in Warburgian terms, the possibility that each individual artist, while being connected as an Aristotelian ‘second substance’ to the generations that preceded him, can contribute his own novum to the chain of tradition, obtained from individual experience.

But how does the transmission of hereditary elements from the complex organism of the parent to the tiny embryonic germ of the child occur? Nerve substance is present directly in all organs and perhaps even, as the then most up-to-date histology thought, in each cell of the most important organs. All the organs are in a condition of mutual interdependence: «With this easy and rapid intercourse between all parts is associated the more difficult communication that goes on by way of the circulation of sap [*Kreislauf der Säfte*]»<sup>18</sup>, through which the products of metabolism (literally: exchange of matter: *Stoffwechsel*) can be conducted from one organ to another.

Warburg transposes this holistic-metabolic-organic conception to culture as a whole: «the task of social memory as a ‘mnemic function’ emerges quite clearly: through renewed contact [*Berührung*] with the monuments of the past, the sap should be enabled to rise [*Säftesteigen*] directly from the subsoil of the past and imbue the classicizing form»<sup>19</sup>. In the images of antiquity, the modern artist recovers a symbolic union (in the strong etymological sense of the term) with the tradition he inherits.

Inheritance, as a material matter, is therefore always also “contact”. In our nervous system, argues Hering, «a material trace [*eine materielle Spur*] yet remains in our nervous system by way of a change in its molecular or atomic disposition, that enables the nerve substance to reproduce all the physical processes of the original sensation, and with these the corresponding psychical processes of sensation and perception»<sup>20</sup>.

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<sup>17</sup> Quoted in S. BUTLER, *Professor Ewald Hering on “Memory”*, cit., p. 76.

<sup>18</sup> Ivi, p. 77.

<sup>19</sup> A. WARBURG, *Bayonne, Notizbuch 1927*, quoted in E. H. GOMBRICH, *Aby Warburg*, cit., p. 250.

<sup>20</sup> Quoted in S. BUTLER, *Professor Ewald Hering on “Memory”*, cit., p. 69 (translation modified).

Thus, Hering can lyrically conclude his lecture by stating that «man's conscious memory comes to an end at death, but the unconscious memory of Nature is true and ineradicable: whoever succeeds in stamping [*aufdrücken*] upon her the traces [*Spuren*] of his work, she will remember him to the end of time»<sup>21</sup>.

## II. WARBURG AND SEMON

In order to better define Hering's material mnestic traces, Warburg found important insights in the 1904 work of a physiologist and student of Ernst Haeckel, Richard Semon (1859-1918), entitled *Die Mneme als erhaltendes Prinzip im Wechsel des organischen Geschehens* (*The Mneme as a Conservative Principle in the Changing of Organic Happening*), a book in his possession since 1908<sup>22</sup>. This text provided Warburg with fundamental categories such as «Mneme» and «engram» – points, incidentally, of convergence with Jung's theory of the collective unconscious and archetypes<sup>23</sup>.

### II.1 Mneme

Also for Semon, as for Hering, memory is not limited to the ordinary activity of remembering, but concerns a much broader sphere, relating to the habit, inheritance and reproduction of organisms: for this purpose he employs the term Mneme, which exalts the traditional concepts of *Gedächtnis* and *Erinnerung* to their most extreme categorical limits:

In adopting original expressions for the conceptions defined in this book, I am not unmindful of the words "Memory [*Gedächtnis*]" and "Memory image [*Erinnerung*]", already in use. But for my purpose I should have to use these in a much wider sense than is customary, and the way would thus be opened for innumerable misconceptions and consequent controversy<sup>24</sup>.

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<sup>21</sup> Ivi, p. 86 (translation modified).

<sup>22</sup> R. SEMON, *The Mneme*, English translation by L. Simon, George Allen & Unwin, London 1921. On Semon see D. L. SCHACTER, *Stranger behind the Engram. Theories of Memory and the Psychology of Science*, Lawrence Erlbaum Associates, Hillsdale (N.J.) 1982. For a comparative analysis Semon-Warburg see S. RIEGER, *Richard Semon und/oder Aby Warburg. Mneme und/oder Mnemosyne*, «Deutsche Vierteljahrsschrift für Literaturwissenschaft und Geistesgeschichte», 72 (1998), pp. 245-263.

<sup>23</sup> «The psychic structure is the same as what Semon calls "mneme" and what I call the "collective unconscious"; «"the primordial image can be conceived as a mnemonic deposit, an imprint or engram (Semon), which has arisen through the condensation of countless processes of a similar kind» (C. G. JUNG, *Psychological Types* (1921), English translation by H. G. Bayne revised by R.F.C. Hull, Routledge, London - New York 2017, pp. 348 and 407).

<sup>24</sup> R. SEMON, *The Mneme*, cit., p. 24.

«Mneme» denotes an organism's inherent capacity to record and retain the effects of stimulus and thus interact with its environment on the basis of that retained experience, thus connecting the living being's past and present in a vital unity. Mnemic phenomena will then be those responses of an organism that can only be traced to causal laws by implying past occurrences in the organism's history as part of the causes of the present response.

Semon can thus distinguish an object composed of inorganic matter, which always experiences events as if for the first time, from a body composed of organic matter, which can store experience, and change its behaviour depending on what it remembers of the previous event. Unlike an inorganic body, which immediately receives and transmits energy, discharging it without any time in between, an organic body can afford to store the energy produced by an event, and then discharge it at a later time, even extending the reaction for a very long time (the latency period).

Making use of such energetic implications, Warburg would often employ the term *Mneme* and the corresponding adjective *mnemisch*. But even the Greek Mnemosyne, which titles the unfinished enterprise of the *Bilderatlas*, is evidently conceived by Warburg through the filter of Semon's *Mneme* theory. Again, Burckhardt and Nietzsche, capable of acting – each in their own way, and in a polarised manner – as sensitive receptors of that lymphatic circulation, are defined by Warburg as «receivers of mnemic waves [*Auffänger der mnemischen Wellen*]»<sup>25</sup>.

## II.2 Engram

In the same way that he rejected the terms *Gedächtnis* and *Erinnerung* from his technical vocabulary, Semon rejected the concept of mnestic image (*Erinnerungsbild*) (remember that Hering still used this term, taken up by Warburg himself), since it usually refers exclusively to phenomena of consciousness, and also that of image (*Bild*), which is too generic and equivocal, because it is too compromised by the exclusively visual meaning, tending to exclude, for example, auditory or motor images. He thus proposes a word of his own coinage, «engram [*Engramm*]»: this can belong to both physical and psychic phenomena, and to every sensory field, and is the technical term with which Semon translates Hering's «material trace» imprinted on nervous substance.

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<sup>25</sup> A. WARBURG, *Burckhardt-Übungen 1927*, quoted in E. H. GOMBRICH, *Aby Warburg*, cit., p. 254.



Observing the lasting changes brought about on the excitable substance of organisms by the effects of a stimulus, Semon writes:

I call the engraphic action [*engraphische Wirkung*] of a stimulus, because a permanent record has been written or engraved on the irritable substance. I use the word engram to denote this permanent change wrought by a stimulus; the sum of such engrams in an organism may be called its “engram-store” [*Engrammschatz*], among which we must distinguish inherited from acquired engrams. The phenomena resulting from the existence of one or more engrams in an organism I describe as mnemonic phenomena [*mnemische Erscheinungen*]. The totality of the mnemonic potentialities of an organism is its “Mneme”<sup>26</sup>.

The term «engram» appears frequently in Warburg, and also undergoes a variation in his energetic theory of the image, becoming «dynamogram [*Dynamogramm*]»<sup>27</sup>: that is, an energetic (*dynamis*) sign (*gramma*), with a not implausible allusion also to the dynamo, in the sense of the machine that converts mechanical energy into electrical energy and vice versa. Warburg conceives of his own investigation of images as a «*Dynamologie*»<sup>28</sup>, both in the sense of a general energetic theory of the figural and in the more specific sense of a theory of the possibilities of conversion or reversal or commutation of the image’s energetic charge (e.g. from Laocoon’s evil serpent to Asclepius’ thaumaturgic serpent; from the Dionysian maenad to the Christian Magdalene).

Warburg thinks of such an engram-dynamogram in the form of a «symbol-serve energy [*Energiekonserve-Symbol*]»<sup>29</sup>, thus developing an idea that had already occupied his reflections in the *Grundlegende Bruchstücke*, where in a note of March 1891 we read: «The symbol is a marker [*Kennzeichen*] that has acquired its meaning through known memories [*Erinnerungen*] (stories)»<sup>30</sup>. The symbol is thus for Warburg a point or moment of accumulation of an energetic charge resulting from an event sufficiently intense and repeated to become indelibly inscribed in the collective memory in the form of an engram or dynamogram.

What kind of event does Warburg refer to? To an event that is intense to the point of being traumatic, relating to original pathemic experiences that leave a material trace on

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<sup>26</sup> R. SEMON, *The Mneme*, cit., p. 24. Semon’s distinction between inherited and acquired engrams recalls Hering’s distinction between «small» and «gross» inheritance.

<sup>27</sup> See for instance A. WARBURG, *Allgemeine Ideen* (1927), quoted in E. H. GOMBRICH, *Aby Warburg*, cit., p. 249: «The polarizing of dynamograms through the memory of antiquity».

<sup>28</sup> A. WARBURG, *Grundbegriffe*, 13 June 1929 (WIA, III.102.3.1).

<sup>29</sup> A. WARBURG, *Grundbegriffe, II, Notizbuch*, 1929 (WIA, III.102.4).

<sup>30</sup> A. WARBURG, *Fragmente zur Ausdruckskunde*, cit., p. 82, annotation dated 25 March 1891.

the archaic layers of consciousness. Such experiences have to do with moments of powerful religious enthusiasm typical of archaic human communities, and with the frenetic, orgiastic Dionysian rites:

It is in the area of mass orgiastic seizure that one should seek the mint that stamps the expressive forms of extreme inner possession on the memory with such intensity – inasmuch as it can be expressed through gesture – that these engrams of affective experience [*Engramme leidenschaftlicher Erfahrung*] survive in the form of a heritage preserved in memory [*gedächtnisbewahrtes Erbgut*]<sup>31</sup>.

Here, *Phobos* acts as *Ur*, as the original power in charge of coining forms, which determines the first practices of symbolisation (archaic rites and cults) as attempts to control the original anguish: in fact, Warburg defines the transmissible heritage of such dynamograms as an «inherited mass of phobic engrams [*Erbmasse phobischer Engramme*]»<sup>32</sup>.

### *II.3 Ecphory*

Once the engram has inscribed itself into the brain substance, it goes into a phase of «latency [*Latenz*]». The organism appears to be the same as before, but in reality it has changed profoundly, and retains within itself a new potential to respond to certain stimuli, i.e. precisely those that produced the engraving of the engram, in a way that it did not before. In the life of the species, an engram can inscribe itself in one generation and emerge from dormancy in subsequent generations. The main characteristic of the engram is its remaining in its potential state until it is recalled and reactivated by an appropriate stimulus either presently or from the outside world or arising inwardly. This means that an engram represents the possibility of a certain type of repetition if the conditions are such as to produce its «ecphory [*Ekphorie*]».

It is in fact the ecphoric process that brings the engram out of the latency stage. By ecphory, Semon refers to the situation that arises when an organism's state of arousal can be provoked not only by stimulus *a*, which is synchronous to it, but also by a subsequent stimulus *b*, from which the state of arousal can be evoked and reawakened. Thus Semon

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<sup>31</sup> A. WARBURG, *The Absorption of the Expressive Values of the Past*, cit., p. 278.

<sup>32</sup> Ivi, p. 280 (translation modified).

enunciates the principle of ecphory: «The partial return [*Wiederkehr*] of an energetic condition acts ecphorically on the engram-complex of the total situation»<sup>33</sup>.

Ecphoric influence also plays a fundamental role in so-called engrammatic «dichotomies»: at a certain point in the development of the bee's larvae, there is the possibility that the same larva will produce a worker or a queen; the food provided to the larva – worker or queen feeding – in this case acts as a decisive ecphoric influence or lure, determining the potential dichotomy in one direction or the other and recovering the corresponding latent engram in the present, with the consequent resolution of the ambivalence<sup>34</sup>.

Semon thinks of the engram in terms of a point of concentration of possibilities, which can resolve itself in dichotomously opposed directions. And similarly, Warburg looks at the symbolic image as a neutral energy charge, in itself non-significant not because it is devoid of meaning but, on the contrary, because it is imbued with an infinite number of senses, even opposing ones: a charge waiting to undergo a «polarisation [*Polarisierung*]» or a «commutation [*Umschaltung*]» in one direction or another: «The dynamograms of ancient art are handed down in a state of maximal tension but unpolarized with regard to the passive or active energy charge to the responding, imitating, or remembering artists»<sup>35</sup>. The *Mnemosyne* reservoir is not an archive of so-and-so determined images, but an «inventory of pre-coined expressions [*Inventar der Vorprägungen*]»<sup>36</sup>, a repository of preformations or conditions of iconic possibilities, if you like of virtual or neutral potentials charged with energy that await their actualisation.

### CONCLUSIONS (AND OPEN QUESTIONS)

At the end of this brief survey of Warburg's debts to Hering's and Semon's theories of memory as organised matter, I would like to recall some of the most significant problems that these debts raise in the context of Warburg's doctrine of the image, and more generally in the context of his science of culture.

First of all, Warburg's accentuation of the orgiastic phobic experience as “more original” than the Apollonian, and thus as the primeval source and matrix (*Prägewerk*) of

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<sup>33</sup> R. SEMON, *The Mneme*, cit., p. 56.

<sup>34</sup> Ivi, p. 222.

<sup>35</sup> A. WARBURG, *Allgemeine Ideen, Notizbuch 1927*, quoted in E. H. GOMBRICH, *Aby Warburg*, cit., p. 248.

<sup>36</sup> A. WARBURG, *The Absorption of the Expressive Values of the Past*, cit., p. 280.

enagrammatic impressions, makes the polarity of Dionysian and Apollonian very precarious and indeed completely unbalanced in favour of the first principle (an imbalance that was already present in Nietzsche himself). How could those archaic experiences of orgiastic Phobos have originally affected the nervous substance of primitive mankind as an engram or dynamogram as a neutral, virtual charge and not already in some way inflected and polarised?

Secondly, assuming that the engraving of such engrams has imprinted a neutral material trace on the nervous substance, waiting to be ecphorised (polarised, switched) in one sense or the other, what determines the direction of polarisation (e.g. towards the ecstatic paganising nymph rather than the Christian Magdalene; or towards the authentic *nachlebend* image, capable of empathising ancient forms in modernity, rather than towards the bloodless baroque calligram)?

Warburg inclines sometimes towards a psychological-individual solution: there are «strong» artists, such as Mantegna and Dürer, capable of opposing a «filter system [Filtersystem]»<sup>37</sup> to the uncontrolled rise of orgiastic saps from the Dionysian terrain of life in motion, and «weak» artists, such as Ghirlandaio or Botticelli, too malleable personalities who submit to the ancient powers); sometimes towards a social-epochal solution, in the end not far from Alois Riegl's *Kunstwollen*: phobic engrams are disengaged figurative dynamograms, isolated from the circulation of the saps by a tourniquet. They in themselves do not “want” to say anything, if they are not determined to say it by a precise will: «The essence of thiasotic engrams as balanced [*unbetonte*] charges in a Leyden bottle before their contact with the selective will of the age [*des selektiven Zeitwillens*]»<sup>38</sup>. Certainly (and in a manner entirely consistent with the Hering-Semon view of metabolism as *Stoff-Wechsel*), «it is only the contact [*Kontakt*] with the new age that results in polarization. This polarization can lead to a radical reversal (inversion) of the meaning they held for classical antiquity»<sup>39</sup>.

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<sup>37</sup> A. WARBURG, *Doktorfeier, Notizbuch*, 30 July 1929, quoted in E. H. GOMBRICH, *Aby Warburg*, cit., p. 281.

<sup>38</sup> A. WARBURG, *Grundbegriffe*, I, *Notizbuch* 1929, quoted in E. H. GOMBRICH, *Aby Warburg*, cit., p. 249.

<sup>39</sup> A. WARBURG, *Allgemeine Ideen, Notizbuch* 1927, quoted in E. H. GOMBRICH, *Aby Warburg*, cit., p. 248.

But it is precisely the question as to how this epochal possibility (or its opposite) is realized that remains unanswered, just as the recourse to strong and weak individuals evidently raises further questions, rather than providing answers.

Lastly – and this goes to the heart of Warburg's project, which aims to correct the inadequacies of a history of images based on a merely chronological-progressive model through the contribution of a morphological-transcendental approach – how can an imprint (*Ein-Prägung*) as a historically determined material mnestic trace, however prehistoric, function at the same time as a condition of imaginal possibility (*Vor-Prägung*), as a neutral, non-polarised apriori? How, in other words, can a historical phenomenon also be transcendental at the same time? Or rather become it (*Nach-Prägung*) in its *Nachleben*?

From this point of view, the Hering-Semon theory of memory as organised matter becomes in Warburg a fundamental chapter in that process of materialisation of the apriori, or transcendentalisation of the aposteriori, which has marked a remarkable part of 20th-century thought.