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# *Material Anamnesis and the Prompting of Aesthetic Worlds*

*The Psycho-Historical Theory of Artworks*<sup>1</sup>



**Abstract:** *Many scholars view artworks as the products of cultural history and arbitrary institutional conventions. Others construe art as the result of psychological mechanisms internal to the organism. These historical and psychological approaches are often viewed as foes rather than friends. Is it possible to combine these two approaches in a unified analysis of the perception and consciousness of artworks? I defend a positive answer to this question and propose a psycho-historical theory, which argues that artworks are historical and material artefacts designed to prompt mental activities and elicit the conscious experience of aesthetic worlds. My argument suggests that the material components of artworks — termed their ‘material substrata’ — are crucial mediators between historical contexts and the mental activities elicited by the perception of artworks.*

Many scholars view artworks as the products of cultural history and arbitrary institutional conventions. Others construe art as the result of psychological mechanisms internal to human organisms. These historical and psychological approaches are often viewed as foes rather than friends. Is it possible to combine these two approaches in a

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unified analysis of the perception and consciousness of artworks? I defend a positive answer to this question and propose a psycho-historical theory, which argues that artworks are historical and material artefacts designed to prompt mental activities and elicit the conscious experience of aesthetic worlds.

The essay comprises of four sections. Sections 1 and 2 introduce the ostensible conflict between the historical and psychological approaches to art by revealing a tension between (i) the historical claim that works of art are brought into existence by the social conventions holding in each artworld and (ii) the view that artworks are material artefacts that cause psychological effects, the existence of which depends on networks of causally interconnected material individuals. Section 2 analyzes the difficulties found in George Dickie's institutional theory of art, which derive from a restrictive focus on arbitrary cultural conventions. In contrast to the constructivist theories that view artworlds as entities constructed from social conventions, sections 3 and 4 propose an alternative, joint psychological and historical theory termed the 'psycho-historical theory' of artworks. This theory stems from an ontology according to which artworks are material artefacts that pertain to historical artefact-worlds and can elicit aesthetic experiences. In section 4, the theory specifies the dependence relations between artworks, their psychological effects and their material and historical conditions. The account is psychological insofar as it acknowledges that the material substratum of artworks prompts perceivers' mental processes because it directs their attention and imagination. It is historical insofar as it apprehends artworks as material artefacts that carry information relative to historical and cultural systems. The substratum of an artwork exhibits traces intentionally and unintentionally left by its makers and other entities, and such traces must be studied to appreciate and understand the artwork as a genuine psycho-historical compound.

### **1. The Ostensible Conflict between the Historical and Psychological Approaches to Works of Art**

A theory adopts the *historical approach* if it appeals to historical contexts and institutional entities to define art and study particular artworks. Historical and institutional theories hold that the historical or institutional context within which an object is produced determines whether or not it is a work of art. In recent philosophical aesthetics, the theories of artworks proposed by Arthur Danto (1964; 1981), George Dickie (1997 [1984]) and Jerrold Levinson (1996; 2002) have

defended the historical approach under different guises. These writers suggest that the referents of the terms of ‘art’ and ‘artwork’ must be fixed relative to criteria connected to a particular temporal and cultural context, so that whether something is art today depends on what has been art in the past. In Levinson’s terms, ‘the concrete history of art is logically implicated in the way the concept of art operates’ (Levinson, 2002, p. 367).

In philosophy, the historical and cultural context that demarcates something as a work of art is often termed ‘the artworld’. Introduced by Danto (1964; 1974), the concept of *artworld* refers to a constellation of opinions and theories relative to a historical and cultural background that guide our understanding of artistic artefacts. In Danto’s terms: ‘[t]o see something as art requires something the eye cannot deny — an atmosphere of artistic theory, a knowledge of the history of art: an artworld’ (Danto, 1964, p. 580). The artworld is that context which endows the artist and the public with the conceptual resources to propose and recognize something as art.

By contrast, the *psychological approach* to art aims to analyze the mind and brain processes involved in the production and appreciation of artworks. I will take this focus on *mental* happenings as a defining characteristic of the very varied theories that can be associated with the psychological approach.

An early incarnation of this view includes works by psychologists who have investigated how knowledge about physiological and psychological mechanisms may contribute to aesthetics. Contributions in this tradition are, namely, works by Hermann von Helmholtz (1895 [1863]) for his investigation of the sensation of tone, Gustav Fechner (1876) for his principles of aesthetics, Edward Bullough (1912; 1957) for his analysis of ‘psychical distance’ as factor in aesthetic experience and F.C. Bartlett (1958) for his attempt to capture the formal properties of the artist’s thinking.

The early psychological approach also includes numerous studies in the phenomenology of aesthetic experience by philosophers such as John Dewey (1934; 1950), Curt Ducasse (1938; 1943; 1947), and Monroe Beardsley (1969; 1981 [1958]). They relied mainly on introspective evidence. Beardsley, for instance, believed that useful generalizations about experience could be obtained by acute introspection and argued that aesthetic experience is characterized by universal psychological traits. He analyzed it as an experience ‘in which attention is firmly fixed upon heterogeneous but interrelated components of a phenomenally objective field — visual or auditory patterns, or the

characters and events in literature' (Beardsley, 1981 [1958], p. 527). (Cf. Beardsley (1969, p. 5).

A more recent branch draws on findings from experimental cognitive psychology<sup>2</sup> and cognitive neuroscience to study aesthetic experience, creativity and the perception or production of artworks. From a neurobiological standpoint, Semir Zeki and his collaborators (e.g., Zeki, 1998; Zeki & Lamb, 1994) propose that certain forms of activity in functionally specialized brain areas are necessary conditions of the appreciation of visual art. For instance, Zeki & Lamb (1994) argue that all visual art must obey the laws of the visual system (i.e., the assembling role of the visual cortex, functional specialization of the visual cortex and primacy of the attributes processed by specialized systems). They hold that motion is an autonomous visual attribute, which is the specific attribute that kinetic art probes and uses.

Similarly, Ramachandran and Hirstein (1999) propose eight laws of artistic experience, which are 'a set of heuristics that artists either consciously or unconsciously deploy to optimally titillate the visual areas of the brain' (Ramachandran & Hirstein, 1999, p. 15). These laws of artistic experience hypothesize that a few basic psychobiological processes such as learning, grouping and heightened activity in a single dimension are necessary conditions of aesthetic experience. The works of Zeki, Ramandran and their colleagues are clearly representative of the psychological approach because they study such psychobiological mechanisms independently of their deployment in particular historical contexts. Furthermore, their enterprise is based on the assumption that universal rules or laws of aesthetics (Tyler, 1999) can be identified in a way analogous to the way the Chomskian linguistics (see, e.g., Chomsky, 2000; Hauser *et al.*, 2002) has identified universal rules for the faculty of language.

Along with the works conducted by psychologists on art (Arnheim, 1974 [1956]; Gibson, 1979; Ramachandran & Hirstein, 1999; Solso, 2003), an increasing number of interdisciplinary scholars acknowledge the relevance of understanding psychological mechanisms to addressing problems in aesthetics. For instance, art historians such as E.H. Gombrich (1960; 1964) and David Freedberg (Freedberg & Gallese, 2007) take into account research on psychological mechanisms in their works on the experience of artworks. Similarly, in philosophy, Dominic Lopes (1996) argues that the psychological study of mechanisms of object recognition is relevant for the explanation of the perception and understanding of pictures.

[2] See, e.g., Gibson (1979), Mithen (1996), Reber *et al.* (2004), Sternberg *et al.* (2004).

The historical and psychological approaches often appear to conflict, either because they recommend different ontological assumptions or because they have incompatible epistemologies. Although I believe that such discrepancies must be overcome, we also need to understand their likely origins.

First, one possible ground for conflict is that the two approaches often disagree on the ontological analysis of the nature of artworks and aesthetic experience. Whereas the historical approach tends to define the ontology of artworks as the outcome of historic and cultural *conventions*, the psychological approach may rather construe the ontology of artworks by reference to *mental happenings* such as aesthetic experiences and imaginings. Whereas the historicist tends toward scepticism about the existence of a unitary aesthetic attitude, the psychologist tends toward scepticism about the existence of mind-independent historical factors.

In the logic of the psychologist's view, specific brain processes — such as the lawful processes canvassed by Ramachandran and Hirstein (1999) — are likely to retroactively explain why we select as artworks certain artefacts rather than others. However, this view that psychological constructs must be part of an understanding of the nature of artworks can conflict with the ontology of the historical approach. Consider the case of aesthetic experience<sup>3</sup>, which has been a subject of extensive investigation in the works of Bullough (1912), Dewey (1934) or Beardsley (1969; 1981 [1958]). The psychological and often hedonistic postulation of a unitary aesthetic experience has been rejected by the ontological analyses of Danto and Dickie on the ground of arguments typical of the historical approach and the theory of conventions. Here, I will focus on Dickie's criticism because it is representative of a combination of strong historicism and anti-psychologism that must be challenged if one adopts the psycho-historical theory I recommend.

Dickie has introduced influential arguments against the use of psychological constructs to elucidate the ontology of artworks.<sup>4</sup> One of them is directed against the 'causal conception of aesthetic experience' (Dickie, 1965, p. 129), which is the view that aesthetic experience is a unitary mental happening *caused* by artworks such as paintings and musical works. Its main premise is that belief in a unitary aesthetic experience derives from mistakenly transferring

[3] For overviews of the debates about aesthetic experience, see, namely, Shusterman (1999) and Carroll (2002).

[4] These arguments are mainly found in a series of articles published in the sixties (Dickie, 1961; 1962; 1964; 1965).

properties of the unified object one perceives (while perceiving an artwork) to the experience itself, which is irreducibly diverse (Dickie, 1961; 1965). Dickie therefore concludes that the concept of a coherent, complete or unified aesthetic experience is a myth (Dickie, 1964) because the experience of artworks gives rise to an irreducible variety of experiences or mental contents.

This kind of analysis is not unique to Dickie's view. In a defiant approach to psychological aesthetics, Danto and Goodman have mainly focused their analytical works on the historical, institutional and symbolic conditions of artworks and not on their intrinsically mental, emotional or phenomenal effects (Shusterman, 1999). Goodman's (1968) theory of art, for instance, may lead to reservations about the psychological approach because his analysis of artworks as notational systems appears to bypass the phenomenology of aesthetic experience and its inescapable subjectivity.

The conflicts between the historical and psychological approaches can also take place on the epistemological terrain. The two views can adopt drastically distinct explanatory goals and methods. Roughly, while historical theories endorse the view that artworks are to be understood through the study of a particular set of historical and social conventions, the psychological approach advocates studying artworks and aesthetic experience in terms of psychobiological laws (Ramachandran & Hirstein, 1999; Tyler, 1999; Zeki, 1998) or phenomenological universals (Beardsley, 1969; Bullough, 1912; Dewey, 1934). This focus on universal generalizations contrasts with the cultural relativism and constructivism of a number of historical and institutional theories of art.

## **2. Limitations of the Historical Theories Endorsing Cultural Constructivist**

It is important to diagnose the shortcomings of the cultural constructivism advocated by many historicist theories to prepare the context for reconciliation between the historical and psychological views. Dickie's institutional theory is a paradigmatic case of this constructivism, which rejects most variants of the psychological approach on the ground that art is a social and cultural invention and cannot be a product of specific psychobiological mechanisms (Dickie, 2000, p. 107).

In Dickie's institutional theory, the artworld is necessary to conferring artistic status on the work. Consequently, artworks cannot exist independently of artworlds and their conventions. This theory rightly

suggests that this dependence of artworks on artworlds is overlooked by many psychological theories. In the institutional theory, such dependence is accounted for by a *functional* description that decomposes the whole artworld into functional roles. The theory isolates five of them, which are those of artist, work of art, public, artworld system and artworld (Dickie, 1997 [1984]; 2000).

The *artist* is the person who participates with understanding and authority in the making of a work of art. The artist role is bound to the understanding that the artefact which is created for presentation is art and that there is a wide variety of art techniques that enables ones to create art of a particular kind (Dickie, 1997 [1984], p. 72). The *work of art* is an artefact made to be presented to a public. The role of being a work of art is bound to the fact of being an artefact (Dickie, 1997 [1984], pp. 29–46). The *public* is a set of persons the members of which are prepared to a greater or lesser degree to understand an artistic object which is presented to them. The presentation of the work of art to the public follows a number of conventions (Dickie, 1997 [1984], p. 73), such as using a stage in theatres or hanging painting with their backs attached to the wall.

The central concept of the institutional theory is ‘artworld system’. A particular historical *artworld system* — i.e., an artworld<sup>5</sup> — is ‘a framework for the presentation of a work of art by an artist to an artworld public’ (Dickie, 2000, p. 101). It is a compound of necessarily related roles that constitute the art-making enterprise. Instances of historical artworlds are the different institutional systems of fine arts, literature, performing arts or cinema. They connect to the conventions specific to each artistic genre. In each artworld system, artists present works of art to a public according to historically defined conventions. Finally, *the artworld* is the sum of all historical artworld systems (Dickie, 1997 [1984], p. 75).

The concept of an artworld raises the problem of understanding the reasons why one incorporates certain things into an artworld and rejects others (Dickie, 1997 [1984], pp. 75–7; 2000). Whereas the psychological approach suggests that the selection of objects in artworlds depends on their causal properties and mental effects, Dickie’s constructivist theory focuses instead on *arbitrary* and *accidental* cultural conventions. His ontological claim is expressed as follows:

Why does [the artworld] include literature, theater, and ballet but not dog shows, horse shows, and circuses? The answer is that *the artworld*

[5] I use the phrase ‘an artworld’ as a short form for ‘a particular historical artworld system’.

*is a cultural construction* — something that *members of society have collectively made* into what it is over time. Although perhaps no one has ever consciously decided that dog shows are excluded from the cultural construction that is the artworld, it has turned out that way. If the history of culture had been a little different, the artworld might also be different and include dog shows. (Dickie, 2000, p. 100) [Italics are mine].

This text echoes an earlier passage on the arbitrary character of being an artworld system:

What has to be accepted is the “arbitrariness” of being an artworld system — the lack of a “crucial similarity” of the kind sought by traditional theories which would easily and obviously distinguish it from nonartworld systems (Dickie, 1997 [1984], p. 77).

In such texts, Dickie’s theory clearly embraces the core of what John Tooby and Leda Cosmides (1992) have termed the ‘Standard Social Science Model’ (‘Standard Model’ henceforth). The Standard Model maintains that the generator of complex and meaningful organizations in human life is a set of emergent processes whose determinants are constructed and realized at the level of cultural groups and conventions (Tooby & Cosmides, 1992, p. 28) as opposed to the level of individuals and their mental mechanisms. It views the cultural level and its conventions as a distinct, autonomous, and self caused realm. The affirmation of this autonomy (and its accidental events) is in substance what Dickie offers as a solution to the ontological problem of the ultimate demarcation of an artworld. For his account entirely depends on the alleged ontological autonomy of cultural phenomena and conventions from the causal networks of physical bodies and biological organisms studied in physical and psychobiological sciences. This autonomy substantiates Dickie’s refusal to confer on psychobiological mechanisms a role in the explanation of the demarcation of artworlds and the selection of objects as artworks. However, this rationale fails if, as Tooby and Cosmides (1992) and others (e.g., Richerson & Boyd, 2005) have argued, the Standard Model relies on an unfounded postulation of the ontological autonomy of culture and cultural conventions.

Dickie’s emphasis on the ontological autonomy of the artworld does not imply that his view denies connections between the realms of physical individuals as described by physics and biology and the real of culture. For instance, a virtue of his historical approach is to suggest that scholars who study art must pay more careful attention to the status of artworks as artefacts (Dickie, 1997 [1984]), which have physical features perceivable by biological organisms. However, on Dickie’s view, artworlds can only be brought into existence by

arbitrary conventions relative to which artefact can qualify as artwork. To produce an artwork, therefore, artists must intentionally produce an artefact that counts as an artwork according to the conventions of the relevant artworld. A central difficulty in Dickie's institutional theory resides therefore in its *exclusive* focus on arbitrary conventions and functional roles, and their understanding in the framework of the ontology of the Standard Social Science Model. For this focus prevents the theory to account for several essential causal and psycho-historical relations linking artworlds, the physical features of artworks and mental processes.

On my view, the first and foremost shortcoming of the institutional theory is that it does not provide any systematic account of the psychological effects resulting from the perception and appreciation of artworks. Although the theory does not exclude that there are such effects and that they are important, it does not engage in a principled analysis of their nature and categories. The result is a remarkable *indefiniteness*<sup>6</sup> in psychological content of the theory, which abstracts cultural processes from the matrix of interacting psycho-biological individuals and their causal interactions with material artefacts. The resulting doctrine dispenses the theoretician with the analysis of the ways in which the material properties of artworks are causally intertwined with the mental activities of intentional agents participating in an artworld.

Furthermore, given Dickie's insistence that the foundations of the artworld are arbitrary and accidental conventions, his account overlooks the fact that there are *non-arbitrary* and *non-accidental* (e.g., lawlike) causal relations that links each artwork with specific experiences, psychological effects and historical contexts. For instance, a painting may elicit such-and-such emotion on the basis of non-conventional relations, or may elicit the experience of certain colour properties on the basis of non-conventional causal relations that explain why humans perceive certain colours in general. I will consider a series of examples in the next sections.

The causal history of material and technical components of artworks is also relevant to their perception and appreciation. For example, *Gift*<sup>7</sup> (1921) by Man Ray (see Figure 1) present a domestic iron covered with a line of nails on its flat surface. It is part of a class

[6] This indefiniteness is a shared property with the Standard Social Science Model; see Tooby & Cosmides (1992, p. 47).

[7] The original piece has been lost, but there is a replica of the 1921 original at the Museum of Modern Art in New York City; see [http://www.moma.org/collection/browse\\_results.php?object\\_id=81212](http://www.moma.org/collection/browse_results.php?object_id=81212) .

of artworks that present to the public a modified household artefact of which use is playfully perverted by the artist. The normal domestic iron has the function to allow one to perform routine interactions with fabrics for a practical end — to iron clothes and control folds. *Gift* presents a modified iron that would devastate any piece of cloth on which it were applied. Thus, the artwork ironically invites the perceiver to direct their attention at properties that render impossible the performance of the ironing routines (e.g., the property of being covered with nails). However, this irony can only be understood if the interpreter possesses a causal knowledge of the category and function of the material artefact in question, which is knowledge of the causal structure of the world of material artefacts and not merely of arbitrary social conventions.



Figure 1. Man Ray, *The Gift*, 1921.  
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Dickie's lack of focus on how the material properties of artworks are intertwined with psychological effects and causal understanding leads him to overlook the status of the *material* features of the artworks and artworlds. His analysis focuses on *abstract* functional roles and disregards how such roles are implemented in the material world.<sup>8</sup> In brief, Dickie's insistence on the ontological autonomy of the cultural world leads his analysis to circumvent the topic of the particular causal relations and interactions of material individuals (agents, objects or events) and physical connections that compose each artworld system.

Analyzing further the roles of the material substrata of artworks will require us to investigate further the causal and information networks immanent to artworlds, which are usually left out by the strong constructivist theories that adopt the Standard Social Science Model.

### 3. The Psycho-Historical Theory I: Introducing Artefact-Worlds and their Material Substrata

As an alternative to the constructivist view canvassed above, one could instead endorse a joint historical and psychological theory of artworks and their perception. I will refer to this theory as the *psycho-historical theory* of art and present its basic principles. In contrast to theories that dispense with examining either historical or psychological conditions of artworks, the psycho-historical theory studies how the material properties of an artistic artefact jointly elicit mental processes and connect to artworlds. It equally analyzes the psychological effects which depend on the conventions of an artworld and those which depend on causal relations overlooked in cultural constructivist accounts (such as Dickie's theory discussed in section 2). I will introduce this alternative framework, which requires one to discuss the material nature and function of artefacts.

I will use the concept of an *artefact* to refer to material compounds or assemblages intentionally brought into existence through human agency or artificial agency derived from human agency. Here, 'brought into existence' refers to the fact that the production of an artefact by an agent typically produces a new configuration that did not exist before the agent's intervention. Artefacts have usually a function, and the way human adults understand artefacts concepts seems underlain by a causal-explanatory understanding of their intended function and working (Kelemen & Carey, 2007; Norman, 1988).

[8] The neutrality regarding the material implementation of a functional role can also be prototypical of the functionalist theories of mental states, see, e.g., Block (1980).

Since an artefact is an outcome of agency and technique, its characteristics are contingent on the historical and technical systems used to produce it at a particular period of human evolution or history. For instance, the design of parts of a knife, an iron or a computer depends on technologies mastered by their makers at the time of their production. Using a parallel with the notion of an artworld system (see section 2), we can term *artefact-world system* the historical and cultural context that supports the production, functioning and recognition of an artefact. Each instance of an artefact depends on an *originative artefact-world system*. The latter is the particular historical context in which human agents produce, understand and use the artefact to serve a function such as navigation, hunting, cooking or adornment.

An artefact-world system encompasses at least a set of traceable artefacts, their producer or user and their historical context. This system therefore includes two basic necessary components: the material substratum of the artefacts that implements particular *instances* of artefact type and function (condition 1) and a set of persons who are makers or users of the artefacts (condition 2).

The first condition, the *material substratum*, encompasses the proper material parts and physical features of the artefact. It comprises individual components (i.e., physical objects, organisms or events) that are to be explored to make, perceive or use the artefact. The components of the substratum constitute the artefact and carry information about its function. In most artefacts, the substratum is such that one can perceive traceable or detachable parts in it, as can be observed in the parts of tools, vehicles, books, prostheses, communication devices and art objects. The examination of an artefact's parts is often necessary to infer its intended function (the originative function intended by its maker). The parts can be of any physical nature (e.g., solid, liquid, gaseous or biological) insofar as their assemblage belongs to a system that produces artefacts. For instance, given that humans have engineered new organisms by means of biotechnology, organic material can be parts of the material substratum of an artefact (Margolis & Laurence, 2007; Sperber, 2007).

If the artefact is no longer used but its material substratum lingers as a set of relics, vestiges, or remnants, such remains continue to be material traces of the artefact's past uses and of its originative cultural context. Works in anthropology and archaeology (e.g., Gell, 1998; Jones, 2007; Mithen, 2000) that decipher the information carried by material vestiges demonstrate that artefacts are material repositories that carry information of a causal or symbolic nature relative to past worlds. Artefacts are material traces can be used as prompters to

reinstate memories of worlds and individuals. This process of ‘material anamnesis’ is only possible because the vestiges of a particular artefact causally connect to facts relative to its originative artefact-world and function.

Paying attention to the material substratum of an artefact is thus critical to the reconstruction and knowledge of its history. For instance, the material properties of harpoons employed by Angmagsalik hunters of Greenland (one of the most complex tools Early Humans appear to have made) is built from carefully crafted material parts such as a stone point, an ivory foreshaft, a wooden shaft, floats and many other component parts (Mithen, 1996, p. 143; Oswalt, 1973, pp. 136–9). These parts of the harpoon carry information relative to the function of the artefact, its history and its relationship to the culture of its originative artefact-world system. This is because such parts exhibit traces of their causal interactions with other material objects or agents that compose their originative artefact-world system.

The *second* basic condition of an artefact-world system is a set of human agents who act as makers, appreciators, or casual perceivers of some related material substrata. Such agents may develop a culture about how the material substratum of the artefact relates to its function. To apprehend and use the artefact, they must behave as *perceptual explorers* who track, scrutinize, produce, use, modify the artefact’s substratum and operate as parts of their artefact-world system. They often have to focus their attention on specific parts in the material substratum — e.g., the floats of a harpoon, the steering wheel of a vehicle — to use and understand the artefact. Thus, they act as agents whose bodies and perceptual or motor faculties are modified by, and may modify in return, the material substratum of the artefact.

On these grounds, it becomes possible to relate artworlds to artefact-worlds. Artworlds must be a subset of artefact-world systems because they are contexts for the presentation of a specific kind of artefact, artistic artefacts (artworks). Since artworlds are built around the production and appreciation of artworks, a number of properties of artefact-world systems must be shared with artworlds. Specifically, an artworld must encompass the two basic conditions present in any other artefact-world system: the material substratum of each artistic artefact (condition 1) and the human agents (condition 2) who interact with this material substratum (according to distinct roles such as maker, member of the public, casual perceiver etc). This is the specific *causation* of the material substratum is that is overlooked in cultural constructivist accounts such as Dickie’s institutional theory.

The psycho-historical theory of artworks apprehends artworlds as artefact-world systems. It attempts to classify the informational and mental functions of the material substratum of artistic artefacts understood as components of artefact-world systems. Its basic ontological implications are as follows.

First, on the psycho-historical view, each artworld must include material substrata and agents who explore and may modify such substrata. Hence, an artworld cannot be historically implemented without the prior instantiation of substrata that carry information relative to the artworld and its parts (e.g., the artworks, the public). The necessary presence of a material substratum implies that artworks depend on a configuration of information-carrying material elements which can be perceived, and with which the public can sometimes interact.

Subsequently, the ontological variety of the perceptible elements of an artistic artefact primarily depends on the variety of material bodies used for assembling its substratum. For instance, it is part of the material substratum of numerous early Renaissance Italian frescos to be made, namely, of altered lead pigments (Clark, 2002; Merrifield, 1846). In this case, altered lead is integral to the constitution of these paintings. This lead is not reducible to mental or socio-cultural constructions. It possesses observer-independent chemical properties, which are genuine parts of these artworks and their causal history.

Finally, the material substrata of artworks have a causal power that constrain or suggest bodily movements or prompt mental processes. Clearly, we cannot account for such causal power only in terms of cultural conventions. For instance, substrata of artworks are compounds around which, or in which, the makers and members of the public move and are immersed to a varied extent. They are therefore sets of exploratory possibilities or constraints (exploratory impossibilities), which can fulfil or deceive agents' expectations. Given the material substratum  $\sigma$ , I as an exploring agent can move my body along such-and-such direction (e.g., if  $\sigma$  is the cloister of the Cistercian Fontenay Abbey, or one of Bruce Nauman's corridor pieces); or, I can just perceive this set of information carriers; or, I can listen just to this particular sequence of sounds at that moment (e.g., if  $\sigma$  is the pattern of acoustic waves generated by a music ensemble or a sound installation); or, I can read just these specific sequences of pictograms and written words (e.g., if  $\sigma$  is an medieval manuscript with ornament or an artistic book).

**4. The Psycho-Historical Theory II:  
Exploring the Circle Connecting the Mental Making of  
Aesthetic Worlds to the Historical Making of Artefacts**

We are now in a position to analyze how the psycho-historical theory is to be vindicated. The rationale for the justification I propose is as follows: on one hand, the psychological potency of artworks depends on the causal power of certain prompters in their material substrata; on the other, such prompters operate while carrying information relative to historical artworlds. Studying the ways the material substratum of an artwork elicits psychological processes in the course of its perception must therefore be an integral part of the understanding of this artwork, which cannot be simply understood in terms of cultural conventions. Furthermore, since each material substratum causally connects to historical artefact-worlds, this substratum is a critical mediator in a circle in which the artworks' historical and psychological characteristics are inextricably interwoven.

The dependence relations acknowledged by this psycho-historical theory can be summarized as follows (see Figure 2):

The material substratum of an artwork incorporates prompters that can (C) cause specific changes in perceivers' mental processes and behaviour; (M1) subsequently elicit the mental making of aesthetic worlds; (M2) serve as guide for the activity of historical artefact making; (H1) carry information through causal traces and symbols relative to historical artworlds, the knowledge of which may guide (H2) the perceiver's contextual understanding of the artwork.

In this analysis, C refers to an asymmetrical relation of causal dependence between the perceiver's cognitive processes and the properties of the artwork. M1 and M2 (top triangle in Figure 2) refer to psychological and behavioural reactions prompted by the artwork. H1 and H2 (bottom triangle in Figure 2) refer to historical and contextual relations that bind the artwork and the perceiver to historical artworlds. I will henceforth detail the components of the theory.

*The causal relation (C)*

Causal theories of perception understand the content of a veridical perceptual experience as causally dependent on the physical object which is perceived. This suggests that, for example, a subject's veridical visuo-tactile experience of an ovoid shape necessarily depends on the causal influence of, among other factors, an ovoid

object.<sup>9</sup> If one admits this causal requirement, as I do, one must acknowledge that the causal relation also obtains in the case of the veridical perception of an artwork. This is what is depicted as *relation C* in Figure 2. The veridical experience of the material substratum of an artwork depends, namely, on the causal power of such substratum. For example, Clara's veridical visuo-tactile experience of Constantin Brancusi's *Sleeping Muse I*<sup>10</sup> (1909–1910) necessarily depends on the causal power of the material components of Brancusi's sculpture, among other factors.

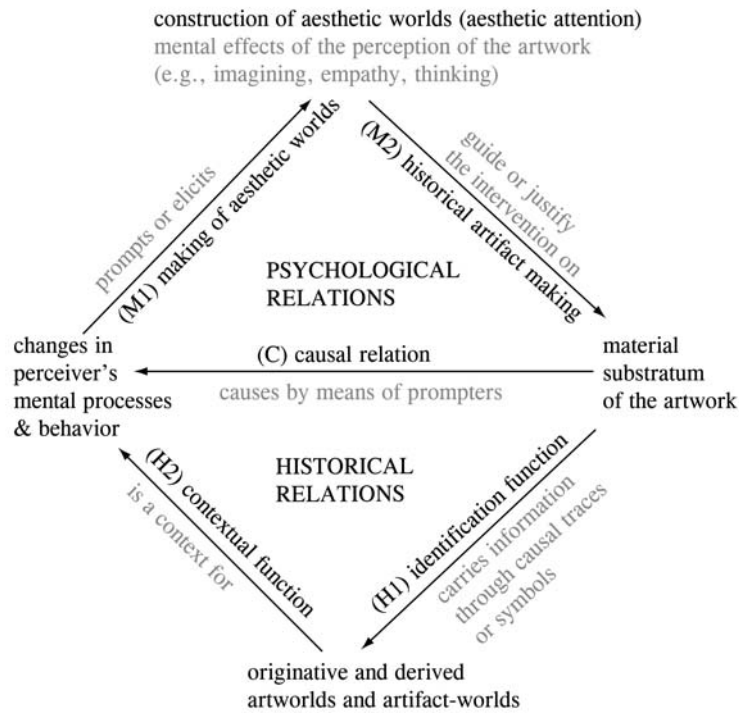


Figure 2. The psycho-historical theory.

[9] For further analysis of the causal theory of perception, see, e.g., Strawson (1974) and Noë (2003).

[10] The piece is in the collection of the Smithsonian Hirshhorn Museum and Sculpture Garden; see [http://hirshhorn.si.edu/visit/collection\\_object.asp?key=32&subkey=4279](http://hirshhorn.si.edu/visit/collection_object.asp?key=32&subkey=4279).

I will call *prompters of mental (or cognitive) processes* the elements in an artwork's material substratum that induce mental, cognitive or imaginative activities while they are perceived. For instance, the shape of Brancusi's *Sleeping Muse I* has the disposition to prompt its perceivers to experience a head-like object and engage in imaginings about the face of a sleeping muse. As the relation C is a lawful causal connection between the artwork as a material body and the perceiver, it is possible to anticipate some of the mental processes that would be elicited by the prompters.

Consider for example an abstract artwork titled *The Pink Room*. The material substratum of *The Pink Room* is an almost empty room in which all white visible walls are illuminated by pink light. Since only pink light is radiating in the room, the conscious contents of the agents exploring this place will be affected by this unusual monochromatic aspect. They will see pink surfaces and only pink surfaces. Thus, *The Pink Room* has the causal power to impact on its perceivers' visual attention, imaginings and beliefs about the room. Through the public exhibition of the work, the maker of *The Pink Room* influences the perceptual experiences of those who explore the room. This influence does not only depend on a cultural convention as per the constructivist view. For the intervention resides also in the objective and causal power of the material substratum of *The Pink Room*, which depends on the shape and reflectance properties of the walls and the wavelength of emitted light.

As for other relations of causal dependence, the relation C can be expressed in counterfactual terms (Woodward, 2003). One may believe that, if it were seen, the ovoid shape of *Sleeping Muse I* would elicit the visual experience of a white ovoid head. Similarly, if they were perceived, arousing representations in an artwork would elicit emotional responses. As these causal and counterfactual phrases illustrate, the *types* of material substratum of a given artwork carries information on the *types* of change in mental processes this substratum has the power to prompt and sustain.

The point is best illustrated by the activities of the brain's modular perceptual processes, which are those processes that exhibit a functional specialization with respect to a cognitive domain (Carruthers, 2006; Zeki, 1998). A perceptual system that is functionally specialized to track a feature of type *F* (e.g., colour, motion, location, face-like properties) will be activated by instances of *F*. For example, if an artwork's substratum comprises a rotating wheel as in kinetic art, the motion of the wheel will induce activities of the module in the

visual brain responsible for processing visible motion (Zeki & Lamb, 1994).

Note, however, that the prompted mental activities also depend on acts of voluntary *attention* directed at the substratum, which correspond to a different orientation of causality. If the content of a perceiver's visual experience of the *Sleeping Muse I* is dependent on an actual causal link with the sculpture, the content of perceptual experience is also determined by the perceiver's deliberate choice of which properties of the sculpture are to be attended at a particular moment. The causal power exerted by the material substratum prompts the perceiver in certain mental activities, but it does not entirely drive the exploration of the artefact.

*The mental making of aesthetic worlds (M1)*

The psycho-historical theory needs a comprehensive characterization of the mental activities induced by artworks qua material artefacts. A way to characterize such psychological changes is to note that the artwork substratum prompts its perceiver to experience aesthetic or imaginative worlds. Here, when I use the term 'world', I adopt a structural and liberal sense of the term found in Goodman's (1978) and Walton's (1990) writings. In this sense, 'world' refers to something that exhibits structure and organization — i.e., a structured representation or a structured description of real and fictional situations.

Specifically, we can use the phrase *aesthetic world* to refer to the psycho-historical construction built from the combination of mental representations of an artwork's substratum and the experiences, imaginings or propositional attitudes prompted by this artwork. An aesthetic world is therefore a *relational* construction that jointly depends on the perceiver's mental processes and the material substratum of the perceived artwork. In this sense, the properties of an aesthetic world are partly dependent on the perceived artwork material substrata (see the causal relation C) and partly dependent on the mental processes and structures assembled and experienced by the perceiver who is attending to the work.

Note that aesthetic worlds are highly varied. The contents of fictional (aesthetic) worlds issued from novels or cinematographic works can be highly coherent and complex. Fictional worlds are not, however, the only kind of aesthetic world that can be generated by art objects because many works such as abstract and minimalist pieces do not operate through narratives and the coherent depiction of a fictional world. As the fictional content can be incomplete or absent,

artworks may prompt experiences with only minimal spatio-temporal structure or transient phenomenal characteristics, which may be viewed as *aesthetic micro-world*.

This framework suggests a way to interpret the notion of aesthetic attention, which can overcome Dickie's objection (section 2). Aesthetic attention can be identified with the mental processes related to the construction and exploration of aesthetic worlds. This mental and attentive construction can be termed the *mental making of aesthetic worlds*. The effects induced by prompters can support the exercise of aesthetic attention and imagination precisely because they induce the construction of aesthetic worlds, the characteristics of which depend on particular genres and artworlds.

A way to argue for this analysis can be derived from Kendall Walton's theory of make-believe (Walton, 1990), although Walton does not explicitly defend a psycho-historical theory. The premise of Walton's argument is that real material things such as dolls, toy trucks, snowmen, and representational artworks are similar in that they can prompt individual and social imaginative experiences or games. For Walton, these real things or artefacts have three imagination-related functions: they prompt imaginings; they are objects of imaginings; and they are 'props' that generate fictional truths.

The material things that prod our imaginings are also termed *prompters* by Walton.<sup>11</sup> A non-artistic example of the use of a prompter, which is discussed by Walton (1990, pp. 21–4), is when Heather, while walking in a wood, comes across a stump shaped like a bear and imagines a bear blocking her path. The stump prompts her to imagine a bear. Then, Heather proposes to her friends to play a make-believe game in which all stumps in the wood 'count for' bears. In their make-believe game, the relevant causal properties of stumps subsequently become props that contribute to the generation of fictional truths.

This analysis of prompters applies to the perception of artworks as well because artworks have many ways of prompting our experiences and imaginings. For instance, Brancusi's *Sleeping Muse I* prompts the perceiver to imagine an aesthetic world related to a sleeping face. The reading of *Metamorphosis* by Franz Kafka prompts the reader to imagine that Gregor Samsa is being transformed into a vermin. The film *M* by Fritz Lang prompts the public to imagine and reflect about an entire German city obsessed by the tracking of a murderer.

[11] Goodman (1968, pp. 50–7, 87–95; 1978, p. 12) would probably have viewed prompters as tokens that exemplify or express referential relations.

Walton's analysis of how attention to the particular *material* characteristics of a substratum guides imaginings (see, namely, Walton, 1990, p. 26) is remarkably consistent with both C and M1. The objects that causally prompt the perceiver's imagination (e.g., the material substratum of the toy truck, painting, printed pages) accomplish more than just triggering imaginings. By virtue of the causal relation C and the perceiver's understanding of these objects' workings, they can also have a lasting effect on the guidance and regulation of the perceiver's experiences and imaginings.

*Historical artefact making (M2)*

The conscious experience of aesthetic worlds is also relevant to apprehending processes of decision-making in the production or selection of an artistic artefact. Artists who produce an artwork are likely to ground their decisions in their experience of the prompting power of an artwork in progress. They may find conscious motives for modifying the material substratum in the experience of aesthetic worlds correlated with the construction of the artefact.

This suggests that the making of an artwork depends on a circle between modifications of the artwork's substratum and evaluations of this substratum as prompter of perceptions and imaginings. Thus, historical<sup>12</sup> artefact making can be guided or justified by the experience of aesthetic worlds. This is another piece of evidence indicating how deeply interwoven the psychological effects and the historical conditions of an artworks are.

*The material substratum as a carrier of historical information (H1)*

The attempt to combine the psychological and the historical approaches finds another justification in the thought that material substrata carry information relative to artworlds, and therefore relative to historical artefact-worlds and their components (material objects and intentional agents). Two basic kinds of information can be retrieved from perceiving and scrutinizing the substratum of an artistic artefact.

On the one hand, the substratum can carry *information relative to causes*, such as information relative to the causal history and material properties of an artwork. This concept of 'information relative to causes' refers to regular or invariant connections exemplified in physical things, and which can be used as indices to infer the

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[12] In the phrase 'historical artifact making', the adjective 'historical' is used to demarcate actions of the makers that will leave material traces and be historical evidence of their actions on the material substrata of artworks.

characteristics of other things. For instance, the method of radiocarbon dating in archaeology uses the invariant characteristics of the evolution of carbon-14 ( $^{14}\text{C}$ ) in the Earth atmosphere and biological organisms to determine the age of organic remains. Carbon-14 in organic substrata carries causal information relative to the age of the substrata. Likewise, as many physical facts carry many sorts of causal information, each artwork carries many sorts of causal information. For example, in virtue of certain physical regularities, the chemical characteristics of the paint of a painting carry causal information relative to the age of the painting. Similarly, the shape of the layers of paint carry causal information relative to the way the paint has been applied, and the examination of such layers can reveal hidden paintings such as in many of van Gogh's works (Dik *et al.*, 2008). As any material trace, traces such as photographic and acoustic recordings are also carriers of causal information.

On the other hand, the substratum can carry *symbolic information* if it displays marks that have semantic value in a symbolic system. For instance, a painting may display written words and sentences that can be understood as carriers of linguistic meaning in the English language. As shown by Goodman (1968), artworks make an extensive use of symbolic systems, which means that they often carry symbolic and semantic information in addition to carrying causal information.

The gist of the psycho-historical theory is to hold that artworks do *not* carry *only* symbolic information: like any other kind of artefact, artworks can carry different kinds of information. Most importantly for combining the psychological and historical approaches, the material substratum of an artwork carries information about historical artworlds. It provides physical indices of age, traces of manipulation or mechanical modifications in the substratum. Artist signatures, written dates, musical notational systems, linguistic phrases and descriptions, stylistic features carry symbolic and semantic information.

#### *Artworlds as historical context (H2)*

So far, we have noted that the material substratum of an artwork carries causal and symbolic information relative to an originative artworld. This is because the artworld system is the material, historical and institutional context for the artwork production. Contextual information is therefore nested in the material structure of the artwork. Since an originative artworld is a context for the production and initial appreciation of the artefact, the originative artworld and its conventions can guide the understanding of the production and

appreciation of the artwork. This contextual role is what is traditionally studied in the historical and institutional approaches to artworks. What is important to note for the present discussion, is that this contextual role is grounded in the joint study of the material substrata of artworks and the psychological changes that they elicit. History and psychology are therefore intertwined in material traces.

### Conclusion

The key proposal of the psycho-historical theory of artworks introduced in this article is to investigate the multifaceted functions of their material substrata, which can simultaneously prompt the psychological construction of aesthetic worlds and relate to the historical identity of originative and derived artworlds and artefact-worlds. In this view, aesthetic experience or aesthetic consciousness are neither mythical nor alienated from history. The view suggests instead an account of aesthetic experience and attention that can rebut Dickie's argument from the elusive and mythical nature of aesthetic experience. This account consists in identifying aesthetic attention and consciousness with the attentive construction of aesthetic worlds on the basis of the perception of artistic prompters. When prompters are embedded in a substratum that is historically recognized as an artwork, the aesthetic experience is dependent on artistic prompters. Furthermore, the process of making an artwork can be understood as the combination of mental acts of aesthetic-world making with actions of artefact making. When prompters of aesthetic worlds do not participate in any historically recognized artwork, this kind of experience might be qualified as an art-independent aesthetic experience. On this view, aesthetic experience is comprised of the attentive activities carried out by explorers and appreciators of aesthetic worlds. In this sense, the concept of aesthetic attention remains irreducibly tied to both mental acts and historical factors.

The *upper triangle* refers to psychological effects generated by the perception of the material substratum of an artwork. This substratum causes, by means of prompters, a series of changes in the perceiver's mental processes and behavior (this is the causal relation C). Subsequently, it elicits the construction and consciousness of aesthetic worlds (relation M1). The conscious awareness of which aesthetic worlds are generated by the material substratum guides decision-making in the production of the artefact (relation M2). The *bottom triangle* refers to historical and contextual relations. The material substratum of the artwork carries information relative to its originative historical artworld and artefact-world through traces of past causal happenings.

This information can sometimes be used to identify its originative artworld or other related artworlds (relation HI). Conversely, historical knowledge about the originative or related artworlds provides contextual knowledge to apprehend and appreciate the artwork (relation H2).

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ERRATA: JCS, page proofs, 'Material Anamnesis and the Prompting of Aesthetic Worlds'

I have noticed a few errors while reading the page proofs in the PDF. These errors have to be corrected as follow:

- p. 1, lines 24-5: insert the (French language) article 'la' between 'National' and 'Recherche' (the correct spelling of the institution is 'Centre National de la Recherche Scientifique').
- p. 1, line 26: replace the old email address 'nicolas@objectcognition.net' by my new email address 'bullo@cral.cnrs@gmail.com'.
- p. 2, line 7: remove 'of' in 'The essay comprises of four sections.'.
- p. 4, line 3: close the parenthesis/bracket sign after '(1969, p. 5).' As the correct form should be '(1969, p. 5)).'.
- p.4, line 23: insert 'Ramachandran' instead of 'Ramandran'.
- p.8, line 37: insert 'realm' instead of 'real' (i.e., add an 'm').
- p. 10, line 16: insert 'Paris 2009.' instead of 'Paris 2008' (i.e., replace the '8' by '9' as this year should refer to the year of publication).
- p.12, last line: insert 'that' between 'traces' and 'can' (the correct reading is 'material traces that can be used as prompters').
- p. 13, line 17: delete the space between the hyphen '-' and 'world' (the correct spelling should be 'artefact-world' instead of 'artefact- world').
- p. 16, Figure 2: I provide a version of Figure 1 that accords with British spelling instead of American spelling (in which the term 'artefact' replaces the term 'artifact' in the two instances).
- p. 16, Figure 2, **IMPORTANT ERROR**: The text of the caption for Figure 2 is missing because it has been misplaced pp. 22-23. It should therefore be moved from pp. 22-23 up to p. 16 and placed just after Figure 2 in the relevant font and size. Here is the text in question: 'The *upper triangle* refers to psychological effects generated by the perception of the material substratum of an artwork. This substratum causes, by means of prompters, a series of changes in the perceiver's mental processes and behaviour (this is the causal relation C). Subsequently, it elicits the construction and consciousness of aesthetic worlds (relation M1). The conscious awareness of which aesthetic worlds are generated by the material substratum guides decision-making in the production of the artefact (relation M2). The *bottom triangle* refers to historical and contextual relations. The material substratum of the artwork carries information relative to its originative historical artworld and artefact-world through traces of past causal happenings. This information can sometimes be used to identify its originative artworld or other related artworlds (relation H1). Conversely, historical knowledge about the originative or related artworlds provides contextual knowledge to apprehend and appreciate the artwork (relation H2).'

- p. 19, line 6: replace '(section 2)' by '(section 1)'
- p. 22, line 35: replace 'behavior' by 'behaviour'.
- p. 22, lines 32-42 and p. 23 lines 2-6, **IMPORTANT ERROR (see above the comment about the caption of Figure 2 p. 16)**: This is the text of the caption for Figure 2, which is missing p. 16 because it has been misplaced here pp. 22-23. It should therefore be moved from pp. 22-23 up to p. 16 (or 17) and placed just after Figure 2 in the relevant font and size.
- p. 25, line 5: replace 'Schwartz' by 'Schwarz'.