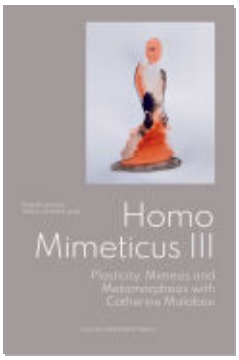
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Chapter 3: Material Mimetism: On Plastics, Plasticity and Mimesis

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CHAPTER 3

MATERIAL MIMETISM

On Plastics, Plasticity and Mimesis

Alice Iacobone

Introduction

This chapter discusses the relationship between plasticity and mimesis by examining a phenomenon that I call *material mimetism*. To grasp it intuitively, we can look at the spaces in which we live: for example, the many surfaces that appear to be wooden floors or marble countertops but that are actually made from plastic. The same phenomenon can be observed in more specific cases, from the arts to the natural sciences. An example is provided by wax, a material notoriously capable of imitating human flesh, which for this very reason has been widely exploited for both medical and artistic purposes.

Materials are seemingly capable of imitating each other: plastics can look like marble and wood, wax can simulate the human *incarnato*, and so on. The concept of material mimetism aims at addressing these kinds of phenomena without leading them back to the activity of a human observer, whose perception would provide grounds for the relationship between the two otherwise unrelated materials. The notion of material mimetism offers the possibility to conceive of mimetism as an ability (or, better, a *behavior*) enacted by plastic materials themselves, endowed with agency and capable of entering meaningful, transformative relationships with one another.

Plasticity and mimesis are at the core of the argument developed in these pages. The concept of plasticity, to which French philosopher Catherine Malabou has devoted considerable research, proves to be very much in line with the concept of mimesis as understood in the context of mimetic studies, which

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aims to counter the traditional conceptualization of mimesis as a deceitful, illusory and ontologically depleted copy of nature. The profound solidarity of the two concepts has been highlighted and explored by Nidesh Lawtoo within the field of mimetic studies (Lawtoo 2017; 2022, 129–155). Both Malabou and Lawtoo develop their respective accounts by deepening their concepts with particular reference to human subjectivity. Malabou's philosophy of plasticity as well as Lawtoo's mimetic studies have nonreductive materialist foundations and scopes (Lawtoo 2022, 157–189, 255–276; Malabou 2009, 9). Both accounts, however, tend to explore materialism by privileging the connection with human life and by paying less attention to inorganic materials, with regard to their plasticity and their mimetic abilities.[1]

The present chapter interrogates these dimensions that are still in need of further developments; it does so by turning to the methods and conceptual tools of German *Materialästhetik*, outlined since the turn of the century by scholars such as Monika Wagner (2001b), Dietmar Rübel (2012) and Petra Lange-Berndt (2015a), and by engaging with new materialist accounts, such as Manuel DeLanda's (2005; 2016), that can be traced back to the influence of Gilles Deleuze and Félix Guattari (1994). A more specific analysis of the case of plastics, then, will give us the opportunity to explore the relationship between the plasticity of nonhuman materials, on one hand, and their inclination for performative mimesis, mimicry and mimetism, on the other.

Despite the increasing attention around "material mimesis" in recent years (see Bol and Spary 2023), the problematic anthropocentrism inherent to this perspective is not really addressed. Therefore, this chapter asks: what happens if one moves away from human subjectivity and considers the plasticity and mimesis of materials themselves? In doing so, it contributes to mimetic studies and to studies on plasticity and aspires to broaden them by deepening the nonreductive materialism already active in Malabou's and Lawtoo's accounts.

The argument for a nonhuman understanding of material mimetism is structured as follows. First, I provide an analysis of the concept of plasticity. Going back to its etymological roots shows that three different meanings and semantic areas have been associated with plasticity: (1) formation of inorganic materials; (2) formation of human subjectivity; and (3) imitation. While Malabou has worked at the intersection of the first and second semantic areas, and Lawtoo has investigated the relationships between the second and third meanings, this chapter devotes attention to the intertwining of the first and the third. Admittedly, phenomena of material mimetism display cases of imitation enacted by inorganic materials that ask to be examined by materialist

means. After rejecting representational theories that lean on human perception as a means for elucidating these cases, I outline a material aesthetics based on a method of "material complicity" that, in a new materialist fashion of Deleuzean descent, focuses on sensation and the behaviors of materials themselves.

This method proves to be particularly valuable when considering the specific case of plastics. Invented precisely for mimetic purposes, plastics indeed offer several examples of material mimetism—so much so as to be described as a "chameleon material" (Bensaude-Vincent 2013, 19). Drawing on this expression, I propose to understand material mimetism in comparison with animal mimicry as it has been conceptualized by Roger Caillois (a thinker of paramount importance for mimetic studies), i.e. as a phenomenon based on affects without an observer, rather than on external appearances that must be perceived. This chapter is thus meant to open a speculative path concerning plasticity and mimesis from the point of view of nonhuman materiality, therefore broadening the debate on these concepts while remaining profoundly sympathetic to the perspectives of the authors who have shaped this debate.

At the Roots of Plasticity

Plasticity and mimesis are linguistically entangled, as the etymology of the former term shows. The noun "plasticity" comes from the Greek word *plássein*, a verb that means "to model," "to mold," "to shape," "to form." Malabou has pointed out this linguistic reference to form and formation by describing plasticity as the ability to both *give* and *receive* form (2010, 87; 2011a, 487). Plasticity thus refers concurrently to the *activity* of formation and to the *passivity* of acquiring a form: it brings together what is *gestaltend* ("forming") and what is *gestaltet* ("formed") (2005, 8). Reference to the form—or, better, to the dynamics at stake in the process of formation (*Gestaltung*)—is therefore a paramount feature of plasticity, which can be conveniently regarded as a morphological concept.[2] However, the morphological overtones of this concept remain far from the ideality of form: plasticity is a concept that asks to be framed within a materialist philosophy. Such materialism should not be mistaken for reductionism, as is the case with other concepts: the concept of flexibility, for example, displays exclusively the passive side of plasticity (Malabou 2008, 12–14) and inspires poorer materialist accounts that easily comply with the social and political status quo (46–54).

Furthering our examination of the linguistic roots of plasticity, the reference to materials and materiality becomes more and more radical. In its very first meaning, *plássein* did not mean "to form" in general; it rather meant "to form out of a malleable material (especially wax and clay)" (Dongowski 2002, 815; my trans.). French philosopher Dominique Chateau, among others, has stressed such entanglement of forms and materials within the early concept of plasticity and its ancient vocabulary: "The word *plastikós* is first of all a category relating to matter and its relationship to the form. It designates the specificity of being modeled, what is proper to the malleable matter, and its force of formation (in the sense that formation is the action of the form)" (Chateau 1999, 11; my trans.). He adds: "The idea of plasticity attests of features belonging strictly to modeling and to the specific category of a material that is soft enough to be kneaded and compact enough to take on permanent forms" (1999, 13; my trans.). If reference to form represents a paramount feature of plasticity, the reference to inorganic materials (most notably clay) is equally important in the very first occurrences of the term.[3] Plastic materials are endowed with physical ambiguity: they disturb the dichotomy that divides flexibility from rigidity, suppleness from resistance, liquidity from solidity, metamorphosis from morphological stability. By bringing together opposite behaviors and features, plastic materials display what art historian Georges Didi-Huberman has called a "paradox of consistency," which points to the fact that materials such as waxes "discard the contradiction of material qualities" (Didi-Huberman 2000, 217). In a sense closely tied to nonliving materials, Malabou similarly specifies that "plasticity designates solidity as much as suppleness" (Malabou 2008, 15).

It is thus possible to outline the first meaning of plasticity as (1) material formation occurring both in an active and a passive sense. However, focusing on the Greek and Latin occurrences of this vocabulary (*plássein*, *plastikós*, *plásma*) also reveals interesting shifts in meaning that had broadened the domain already in ancient times.[4] Let us examine them closely.

First semantic shift: the concept of plasticity as material formation was soon transposed from physical bodies to human souls. Plasticity then started referring to (2) education—what in the *Goethezeit* would be called, not by chance, *Bildung*, that is, a "formation" capable of fashioning a young person's character, a training through which it is possible to shape young people and their personality. This shift in meaning is already visible in Plato's different uses of *pláttein* (Attic for *plássein*). In the *Republic*, for instance, he claims that mothers and nurses should "spend far more time shaping [the children's] souls [πλάττειν τὰς ψυχὰς] with [...] stories than [...] shaping their bodies [τὰ σώματα] by their hands"

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(1963a, 624, 377c). According to Plato, it is at a young age that a soul is "best moulded [πλάττεται]" and therefore "best tak[es] on the impression [τύπος] that one wishes to stamp [ἐνσημήνασθαι] upon it" (624, 377b);[5] adults too, however, can be modeled by means of theatre (830, 604e)—a fact that notoriously takes on a negative connotation in Plato's thought, but that nonetheless accounts for the plasticity of human beings. The idea of a certain malleability of the immaterial soul can also be found in the *Theaetetus*, in which the image of a wax tablet in the mind allows for an explanation of memory: things that have been thought or perceived are not forgotten so long as their imprints last on the tablet (1963b, 897, 191d).[6] Thanks to this semantic change in focus, the human being is now ranked among the "plastic materials" that bring together suppleness and rigidity, malleability and resistance. By taking on this second meaning, plasticity comes to concern the soul in antiquity and the subject in modernity.

Malabou's entire reflection can be seen as an articulated variation on the theme of plastic subjectivity. From her initial engagement with Hegel, which not by chance begins with an analysis of the role of habits in the "Anthropology" (2005, 28–38), to her dialogue with neurosciences (2005; 2012a) and the epigenetic paradigm (2014), Malabou is constantly grappling with the problem of subjectivity in the light of plasticity.[7] Interestingly enough, the French philosopher post-dates the semantic shift of plasticity referring to the human being.[8] "For the first time with Hegel, plasticity reaches the essential," she claims, and continues: "The philosopher snatches plasticity from its strictly aesthetic anchorage in order to attach it to a problematic space which, so far, had not been its own: *subjectivity*. It is now that the *subject* is called *plastic*" (2000, 8–9; my trans., emphasis added). Of course, Malabou is no longer considering "souls" as "immaterial": quite the contrary, she devotes a great deal of attention to the body, from the brain (2008; 2012a) to the clitoris (2020). Broadly speaking, Malabou's account of the human subject is developed from the perspective of a nonreductive new materialism.[9]

Malabou's new materialism—which is also described as dialectic, deconstructive and nonreductive (2009, 9)—ultimately consists in a profound entanglement of the philosophy of the spirit with neurosciences, or, better, in a philosophy of the spirit (and therefore of the subject) that results from, and is coherent with, the evidence offered by up-to-date neurobiology (2012a, 212). Malabou's materialism is therefore a "materialism of the flesh," as it is inherently tied to the living matter, if not to humanity all together. A materialism interested in inorganic materials is not at stake in her thought.[10] If we circle back to the reference to clay made by Malabou, it is possible to notice that she tends to place nonliving

materials on the passive side of plasticity: clay is regarded as inert unless human agency activates it; it is used as an example of being "susceptible to changes of form" (2005, 8) or of the "capacity to *receive form*" (2008, 5). In Malabou's account, the power to bestow form never pertains to such an inorganic material, which can be regarded as plastic only in a reductive, passive sense. Proper plasticity, characterized by the never-ending oscillation between activity and passivity, seems to belong exclusively to the human body and more specifically to the brain, which is what best brings together spirit and matter, production and reception of form. This is why, while being a new materialism in its own right, Malabou's thought can be fully inscribed in the second field opened up by the concept of plasticity: that of plastic human subjectivity.

Let us now turn to the second semantic shift experienced by the vocabulary of plasticity in its early uses. This further change bent plasticity in the direction of (3) mimesis and simulation, as the verb *plássein* gradually took up various meanings ranging from "to invent," to "to fake," "to simulate," "to counterfeit." Baldine Saint-Girons (2000, 33–34) has devoted relevant pages to this change in meaning, pointing out that this connotation was further consolidated in the Latin translation of *plássein* as *fingere*, from which both the words "figure" and "fiction" come.[11] Despite coming from a different linguistic root, *fingere* too maintained the first meaning of "modeling in clay," as the noun *figulus* ("potter") attests. Here, by digging in the different semantic layers of the term and in its remote history, we witness an unexpected encounter between plasticity and mimesis. Of course, this is not the only space in which these concepts can meet—the present volume represents a collection of the possible, multifaceted encounters that can occur between plasticity and mimesis well beyond any lexicographic consideration. Moreover, mimetic studies has already acknowledged the fruitful entanglement between mimesis and plasticity, specifically in Nidesh Lawtoo's article on "The Plasticity of Mimesis" (2017), which later became part of *Homo Mimeticus* (2022, 129–155). However, focusing on this rich etymology could help us shed light on yet another possible way in which plasticity and mimesis can meet, opening up to a materialist supplement that broadens mimetic studies while maintaining a continuity with it.

Let us briefly examine the strategy adopted by mimetic studies so far. In his 2017 paper, Lawtoo does not mention the fictional meaning associated with the vocabulary of plasticity in ancient times; he rather retraces a theoretical genealogy up to the point where the philosophical joint adventure of the two concepts begins. Drawing on Philippe Lacoue-Labarthe's mimetology, Lawtoo argues for plasticity and mimesis to be, in fact, two sides of one and the same concept—a

concept whose origins are to be found in Plato's thought. Plasticity thus loses its autonomous conceptual history and reveals itself as "one of the most recent [...] manifestations of what the Greek called, enigmatically, mimesis" (2017, 1201).[12] What are the elements underpinning this claim? Interestingly, Lawtoo (via Lacoue-Labarthe) folds the discourse on mimesis-plasticity from ontology back to "physio-psychology": the problem of fictionality is brought back to the problem of subjectivity (2017, 1208–1209). Avowedly, Lawtoo makes mimesis and plasticity converge on human subjectivity regarded of course in plastic, even posthuman terms; this move is in solidarity with Malabou in turning to physio-psychology and the subject. We are thus sent back to the understanding of plasticity as subject formation: subjects are shaped plastically, that is, by means of stories and myths—but the spotlight is now on the theatrical actor or mime, rather than on the *pièce* performed on stage. Theatrical *fictioning* is, at the same time, *fashioning* of subjects: mimesis and plasticity overlap, and they do so specifically on the problematic of the formation of subjectivity. This is Lawtoo's first argument. The second one regards the very structure of the concepts of mimesis and plasticity: just like plasticity, mimesis is said to possess a passive, receptive side (i.e. uncritical, blind imitation, that on a mass scale becomes disconcerting for political reasons, as it renders the subjects docile and easy to subjugate) as well as an active, creative side (i.e. the virtuosity of the actor, who is capable of (re-)producing any character). In this sense, "the double structure of plasticity shadows the double structure of mimesis" (2017, 1213). Plasticity maintains intimate relations with mimesis for their common duplicity, and they both still engage with subjectivity.

If we were to consider Malabou's and Lawtoo's accounts by referring to our scheme (Table 1), we could understand Malabou's thought as a rich exploration of the interplay between the first and the second meaning taken up by *plássein*: (1) material formation encountering (2) the fashioning of the plastic human subject. Lawtoo's account, on the other hand, could be understood as a theoretical intertwining of *plássein*'s third and second meaning: (2) the formative process of education (subjectivation, or formation of psychological and physical subjectivity) encountering (3) the domain of imitation, invention and fictionality.

I would like to explore the possibility of a third option: the connection between the first and the third meaning of *plássein*; that is to say, the relationship between (1) the formation of nonhuman materials and (3) imitation, mimicry, fictionality and simulation. By steering away from (2) human subjectivity, I do not intend to mount a criticism of those accounts that have focused on plastic and mimetic subjectivity. On the contrary, this chapter aims to broaden the

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debate while remaining strongly sympathetic to such accounts. In other words, the purpose here is not to go against those who have conceived plasticity and mimesis in relation to subjectivity. This contribution rather takes a different path, a side step we might say, by considering the fortunes of plasticity and mimesis when embodied by something that is not a human subject. By exploring the entanglements of material and nonliving plasticity, on the one hand, and mimesis on the other, this chapter points to a new direction to further mimetic studies.[13]

Table 1. Ancient vocabulary of plasticity

	1. Morphological and material meaning	= to form inorganic matter
First semantic shift:	2. Subject-related meaning	= to form human subjects
Second semantic shift:	3. Mimetic meaning	= to simulate, to counterfeit

Material Complicities

The sheer materiality of mimetic objects and mimetic practices has not often been examined from a theoretical standpoint, remaining the prerogative of engineers and material scientists, who usually work with material resemblances without calling them into question on a speculative level. However, some recent, meaningful exceptions show that scholarship has started taking this issue into account from a theoretical point of view. In 2023, the editors of a collected volume on *The Matter of Mimesis* gathered a number of scholars from the social sciences, the arts and the humanities (as well as some from the hard sciences) and asked them to elaborate on the topic of "material mimesis," i.e. on "the various roles played by materials in mimetic practices" (Bol and Spary 2023, 1). Before this book, philosophy had already been interested in the possibility of a material being able to reproduce the appearance of another substance. Such phenomena mainly drew the attention of phenomenologists, attracted, for instance, to the classic case of wax as capable of imitating flesh (Conte 2014).

The perspectives I have just mentioned share a decisive trait. The contributions collected in the 2023 volume tend to consider materials as embedded in social and cultural practices, taking on general anthropological overtones that loosely place the volume within the field of material culture studies. These essays do investigate phenomena of material mimetism by discussing "ways in which

artisans and makers transformed wood into the appearance of bronze, made bronze or wax look like human flesh" (Bold and Spary 2023, 185). But they do so from the perspective of the human subject who interacts with these items in cultural terms and is deceived, or not, by their mimetic appearance. The same holds (although for different reasons and in different terms) for the phenomenological approach, which is centered on human perception and tellingly resorts to the vocabulary of illusion, delusion, deception and depiction—that is, the dominant ontological conception of mimesis that mimetic studies aims to overcome. In his book on a phenomenological aesthetics of waxworks, Pietro Conte significantly claims: "*In so far as it is perceived as a human being*, the statue is no longer made of wax, but flesh" (2014, 28; my trans., emphasis added). The transition from one material to the other is inextricably tied to the beholder's perception.

These approaches indeed have many merits; for instance, they contribute to the shift in focus from the concept of "matter" to a closer consideration of singular materials.[14] But, in contrast to these accounts, I would like to investigate material mimetism by considering this issue not as a problem of human perception—e.g. "*I perceive* wax as if it were flesh"—but rather as a problem of nonhuman aesthetics, i.e. from the perspective of an aesthetics of materials. With the specific and local purpose of steering away from human subjectivity, the perspective I adopt is not that of the relations of materials with human beings, but that of the relations that materials have with each other. The question, thus, would no longer be: "Why does wax look like flesh *to me*?" but rather: "What is happening *between wax and flesh*?" Within a phenomenological framework, the assumption is that nothing really occurs between the two materials: it is our (deceitful) perception that associates them. On the contrary, I would like to suggest that something actually happens between materials that imitate each other, and that it is the plastic material itself that actively displays mimetic behaviors and engages in mimetic relationships in the first place.

My strategy consists in bringing into play a "material aesthetics," in partial continuity with the German *Materialästhetik* (Wagner 2001b; Wagner, Rübel and Hackenschmidt 2002; Lange-Berndt 2015a). Although trained in art history, the scholars belonging to the *Materialästhetik* do not use traditional art historical methods: they do not focus on symbolic or iconographic contents, but rather "follow the materials" (2015b, 15) of the artworks they consider. The material aesthetics I outline aims at following the materials as well, while maintaining a contingent reference to artworks. A material aesthetics, or an aesthetics *of* materials, will still have to do with *aisthēsis* (sensation), as the Greek etymology of aesthetics suggests; this *aisthēsis*, however, will not be ascribed to

a human observer—rather, it will be embodied by the materials themselves. In this sense, it is with a subjective genitive that one speaks of the sensation *of* wax, of the sensation *of* plastics—where such sensation is to be understood less as a subjective fact and more as a relationship between different objects that allow them to behave similarly.

This shift in perspective comes to the fore by adopting a "methodology of material complicity,"[15] which Petra Lange-Berndt describes as follows:

> To be complicit with the materials means, above all, to acknowledge the nonhuman. This is not about a block of throbbing bodily sensations a subject might carry around in joy or anger, but *sensation of this or that material*, sensation embodied as and in material forms. (2015b, 15; emphasis added)

While such a claim may sound outlandish at first, this argument can in fact be traced back to Gilles Deleuze and Félix Guattari's theory of affects and percepts. "Sensation," they write, "is not realized in the material without the material passing completely into the sensation, into the percept or affect. All the material becomes expressive. It is the affect that is metallic, crystalline, stony and so on; and the sensation is not colored but, as Cézanne said, coloring" (1994, 166–167). Such a material sensation, which sets the conceptual basis for a material aesthetics, is at the core of a resemblance grounded in materiality rather than in optical appearance. To quote again Deleuze and Guattari,

> sensations are not perceptions referring to an object (reference): if they resemble something it is with a resemblance produced with their own methods [...]. If resemblance haunts the work of art, it is because sensation refers only to its material: it is the percept or affect *of the material itself*, the smile of oil, the gesture of fired clay, the thrust of metal, the crouch of Romanesque stone, and the ascent of Gothic stone. (1994, 166; emphasis added)

The affective resemblance that the materials produce *with their own methods* lays the foundation for the phenomena of material mimetism. If more subjectivist accounts tend to consider the macroscopic level of exterior appearance and subjective perception (what Deleuze and Guattari would have called the "molar" plane) as primary, material aesthetics instead tries to put the focus on the microscopic level of affects (the "molecular" plane): it looks at the inapparent

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affective interactions occurring between different materials. Instead of considering the sensible properties of a given material (the ways in which it appears), material aesthetics focuses on the "complex dynamical *behavior*" of the material (DeLanda 2005)—a behavior that manifests itself by taking on certain phenomenal qualities, but that occurs at the molecular level.

If a macroscopic analysis deals with "material mimesis," a microscopic analysis regards the same phenomena as cases of "material mimetism": while the former implies a human subject who witnesses and/or performs the material-mimetic act (someone *to whom* wax appears like flesh), the latter dares to conceive of a mimesis *of* plastic materials themselves. Mimetism, in other words, is a "behavioral mimesis" (Lawtoo 2022, 165). At this level, plasticity is not a quality of materials but a material and processual *behavior*: the more a given material is available to enter relationships with other materials, the more it can be regarded as plastic. At the same time, plasticity should not be confused with flexibility (Malabou 2008, 12–13), i.e. with supple availability to any sort of encounter: despite being available for a variety of interactions, plastic materials have inherent tendencies that make them enter certain relationships and not others. For instance, wax can mimetically interact with flesh, while glass cannot; glass can, in turn, mimetically interact with gemstones, which is not an interaction available to wax. Becoming complicit with the materials thus means looking into the ways in which materials actively become complicit with one another at a microscopic and affective level.

Ventures of a Chameleon Material

Plastics represent the category of materials most suited to investigating cases of material mimetism: they are indeed "materials of mimesis" (Davis 2022, 22).[16] But how to be complicit with such a controversial material? Plastics have a very bad reputation, which stems from the political implications of their production and circulation: they are an agent and a result of petrocapitalism, they endorse forms of contemporary colonialism, they represent an ecological threat for the planet, they create unseen violence, harm, inequality—to name just a few of the issues they raise.[17] All these problematic aspects should definitely be kept in mind; but this does not prevent us from critically investigating the mimetic plasticity of plastic materials, especially since plastics inherently produce a "material and psychological dissonance" (Abrahms-Kavunenko and Brox 2022, 6) that

makes them eschew any simplistic, dichotomic categorization as either "good" or "bad," thus opening up a zone of complexity.

Here, adopting the method of material complicity means, first of all, following plastics through their history and pinpointing some of the moments in which they have engaged in complicity with other substances: moments in which they have behaved mimetically. The history of plastics begins in the 1860s when celluloid was invented by John Wesley Hyatt[18] in response to a specific need: billiards was very popular at the time, but billiard balls were made out of ivory, the scarcity of which resulted in high prices for the game. This is why the American firm Phelan & Collender offered a monetary reward for anyone capable of inventing effective substitute, a material capable of imitating tusk ivory (Miodownik 2014, 124–153; Freinkel 2011). Celluloid was invented for this very specific purpose. Soon, its mimetic abilities were put at work in other contexts too: for instance, celluloid was widely used for producing toiletry items—the so-called "vanity set" that was so important for female identity in Victorian society (Beaujot 2012, 139–177). The mimetic association between this early plastic and tusk ivory was so tight that in 1917 a new kind of celluloid was put in the market with the name of "Ivory Pyralin."[19] However, this material and its mimetic ability elicited mixed feelings: on the one hand, celluloid democratized some goods (and, somewhat paradoxically, it curbed the ivory trade, thus contributing to sparing elephants' lives); on the other hand, it was seen as a cheap, light, superficial and fake material. As philosopher and historian of science Bernadette Bensaude-Vincent recalls, "far from being praised as a quality, plasticity was the hallmark of cheap substitutes, forever doomed to imitate more authentic, natural materials" (2013, 19). Plastics' proneness to imitation, understood in the Platonic sense of a deceptive copy, led to them taking on a negative connotation that associated them with inauthenticity—a connotation that, to a certain extent, persists to this day. At the beginning of their history, plastics therefore represented a material space where plasticity and mimesis met—but with negative, reductive overtones that are far from both Malabou's philosophy of plasticity and the complex understanding of mimesis offered by mimetic studies.

It is true that nowadays plastics have become more and more autonomous, and yet they have continued to replace a wide variety of materials, ranging from wood to metals to marble. Celluloid was born out of complicity with ivory, and, in general, "the systematic development of plastics (*Kunststoffen*) began by looking for a substitute substance (*Ersatzstoff*) imitating the characteristics of other materials" (Mextorf 2002, 161–162; my trans.). Subsequently invented polymers

deepened the complicity of plastics with natural or organic materials by exploring further mimetic relationships to them. Starting in the 1990s, plastics with built-in intelligence were developed: smart materials whose properties change according to changes in their environment (Bensaude-Vincent 2013, 23).

How to conceive of the plastic imitation performed *by* these materials? Bensaude-Vincent recalled that "celluloid was described as a 'chameleon material' that could imitate tortoise-shell, amber, coral, marble, jade, onyx, and other natural materials" (2013, 19). This expression, "a chameleon material," a material with chameleon-like behaviors, can provide us with a crucial hint—the chameleon also being the symbol of mimetic studies, to which we can now circle back in search for a nonreductive solution to the puzzle of plastic imitation.[20] Admittedly, to talk about a "chameleon material" suggests a continuity, or better, a plane of analogy, between the domain of living organisms and the domain of inorganic matter. Celluloid *behaves* like a chameleon: this allows us to point out a continuity between biology and material science. By focusing on behaviors more than on properties, it becomes possible to draw an analogy between material mimetism and animal mimicry. This analogical operation provides us with an explanation of material mimetism from a nonhuman perspective.

The thinking of Roger Caillois can be of assistance here. An otherwise marginalized and overlooked author, Caillois has been regarded as an important ally and even a precursor to mimetic studies and new materialisms (especially in Jane Bennett's version) (Lawtoo 2022, 160–165). The work of Caillois is relevant for two different yet interconnected reasons: first of all, the French essayist outlined a theory of animal mimicry which stresses how these phenomena push life towards inorganic matter (instead of understanding them, as most theories do, as strategies for survival); secondly, Caillois's theory of mimetism (*mimétisme*) is, to use his word, "diagonal": not only does it cut across different disciplinary fields,[21] but it also crosses different domains of reality, establishing a strong continuity between human and nonhuman entities.

In the essay *Mimétisme et psychasthénie légendaire*, first published in 1935, Caillois diagonally correlates insect mimicry with anthropological accounts of magical thinking in so-called primitive societies, on the one hand, and with cases of psychasthenia analyzed from the point of view of modern scientific epistemology on the other. All three kinds of phenomena, Caillois argues, can be brought back to an "appeal" or "lure of space" (2003a, 102, 99), an "instinct of letting go" ("*instinct d'abandon*," 102) which attracts life toward inanimate matter. Mimicry, magical thinking and psychasthenia can all be regarded as forms of "pathology" (91) of the distinction that demarcates the organism from its

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milieu, the subject from the surrounding space. The correlation between these very different domains does not account for a projection of human categories onto nonhuman entities—far from it. As Caillois will claim in a later essay (*Nouveau plaidoyer pour les sciences diagonales*), anticipating and rejecting all accusation of anthropomorphism, "the point is not to explain certain puzzling facts observed in nature in terms of man [*sic*]. On the contrary, it is to explain man [...] in terms of the more general behavioral forms found widespread in nature" (2003b, 345–346). Caillois, and Lawtoo (2022, 157–189) as a reader of Caillois's texts, start from animal mimicry to observe the human subject. This diagonal, non-hierarchical method, allows for a transposition of the same theses to the domain of materials too, i.e. to see behavioral correspondences between the realm of animality and that of inorganic materials. The method and the object of investigation overlap here: "Slicing obliquely through our common world, [diagonal sciences] decipher latent complicities and reveal neglected correlations" (Caillois 2003b, 347). There are unseen complicities, unforeseeable relationships not only between the insect and the inorganic material, but also between, say, plastic and marble—meaning that, for instance, plastic can be attracted toward marble just as the organism can be attracted toward its background.

Observing animals' behaviors, Lawtoo explains that Caillois argues for mimetism to be "not only a visual but also [a] physiological phenomenon" (Lawtoo 2022, 174), "not simply a visual exterior phenomenon, [...] [but] rather an affective, interior, inner experience" (176). As Lawtoo writes:

> It is [...] from the inside out rather than from the outside in that [Caillois] approaches the riddle of mimetism. [...] In fact, he notices that the immobile animal nested against inorganic matter is not simply invisible to the observer's eye—*a question of exterior representation*. Rather, it enters in what he calls a state of "catalepsy" whereby "life," as he says, "steps back a degree" as in a sort of "trance"—*a question of inner experience*. (174–175; emphasis added)

According to Lawtoo, Caillois thus shifts the focus from the optical appearance, which is a macroscopic resulting property, to the microscopic field of processes and experiences. "Mimetism [...] is not only something seen, or a mimetic representation; it is above all something *felt*," Lawtoo points out (178; emphasis added). By transposing this argument from the animal world to the domain of materials, we are confronted once again with a feeling, or sensation, experienced by materials themselves—thus circling back to our material aesthetics.

Still, one may ask: how can plastic imitate ivory, if it cannot see it? Following Caillois, an approach centered on vision cannot explain this phenomenon by acknowledging an agency of plastics: it needs to postulate an observer, to which all the agency is ultimately ascribed. From this perspective, "the resemblance exists solely in the eye of the beholder" (Caillois 2003a, 93). The explanation I outline goes in a different direction, claiming that material mimetism can be understood as the behavior of a given material that undergoes an affective correlation with a different one. Of course, from many philosophical perspectives it may appear problematic to talk about affects or experience without subjects. If we adopt the lens of a new materialism of post-structuralist descent, however, the possibility of a transmission of affects through materials starts appearing sounder: what matters is to acknowledge meaningful relations between materials, relations that are capable of transforming the materials that enter them—relations to be regarded on the model of *agencement* or assemblage (DeLanda 2016). From this perspective, the point is not that plastic may or may not superficially resemble ivory or marble, but rather that between plastic and marble or between plastic and ivory there is a plane of analogy that allows for a material to experience a mimetic contagion. Coherently with mimetic studies but broadening the field in a material-oriented direction, my perspective rejects vision as the main sense to frame mimesis (a position still assumed by the dominant ontological view), turning the attention towards contagion, which is to be conceived of on the model of *touch*.

What is, then, material mimetism? What happens when materials enter imitative relationships with one another? The provisional answer is: material mimetism is a phenomenon of behavioral synchronization between different materials, occurring as the emergence of a common plane of non-organic affects. Non-organic affects can be conceived of as possibilities of elaborating non-automatic responses to external stimuli in the absence of biological organisms. The possibility of a "material intensity" goes beyond the scope of this chapter and can dictate the way for future research. What is important to hold firm is that these affective events occur as relationships between different materials; and that these relationships support phenomenal properties that the observer describes as mutually similar. Plastic resembles ivory not so much in the sense that the former *looks like* the latter according to visual and deceitful standards. Rather, plastic and ivory engage in a meaningful, transformative encounter that unfolds in material and mimetic terms.

Final Remarks

Material mimetism can be defined as the affective becoming *of* materials imitating each other. They can do so by means of their plasticity, which is, at the same time, a (1) material plasticity and a (3) mimetic plasticity, but not a (2) human plasticity (see Table 1), as it does not present traits such as consciousness, cognition and—more broadly—organic life. The investigation of material mimetism makes us circle back to the concept we started with, that of plasticity, which we can now consider in a new light. Material mimetism, intended as a phenomenon in which no human subject is implied, forces us to take seriously material plasticity: if plasticity, in general, defines the coalescence of activity and passivity, often it is only the latter which is ascribed to inorganic, inert materials. Through the analysis of material mimetism, it is possible, instead, to conceive of plasticity as also representing a form of material agency. Plasticity thus comes to describe not a property of materials, but a behavior they enact. Engaging in mutual complicities, materials affectively resonate with each other: by acknowledging this point, we extend the concept of mimetic plasticity beyond the domain of human subjects to witness the ways in which mimetism, as a behavior, can be performed by inorganic materials too.

Notes

1 Within mimetic studies, the first steps to consider mimesis beyond human behavior have been taken via animal mimicry, see the discussion of Roger Caillois and Jane Bennett in chs. 5 and 8 of *Homo Mimeticus*, and via biomimicry, see ch. 14 of *Homo Mimeticus II*. Malabou's focus on AI equally takes mimesis beyond humans. See Malabou 2019 and the Coda to this volume (editors' note).

2 Malabou stretches the concept to include destruction as well as formation (2011a; 2012a; 2012b). However, for Malabou, even destructive plasticity ultimately remains an "adventure of the form" (Malabou 2012a, 17).

3 This aspect is indeed mentioned by Malabou (e.g. 2005, 8; 2008, 5).

4 These shifts in meaning have not gone unnoticed: relevant literature does touch upon the subsequent meanings taken on by the vocabulary of plasticity (e.g. Dongowski 2002, 815; Saint-Girons 1999, 33–34; Chateau 1999, 15–18). These authors record such semantic shifts, but do not fully explore their theoretical potential.

5 This passage from Plato's *Republic* (1963a, 624, 377b) is also quoted by Lawtoo to seal not only the connection between plasticity and Plato, but also the connection between plasticity and mimesis. In Lawtoo's analysis, plasticity and mimesis meet on the topic of the formation of subjectivity, which is explored by bringing into play a peculiar plastic material, Play-Doh, used by "those mimetic subjects par excellence who are children" (Lawtoo 2017, 1208–1211; 2022, 140–141).

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6 It is worth noting that, despite adopting an apparently empiricist metaphor, Plato most certainly does not give ground to either materialism or empiricism because of the ontological distinction he makes between the wax tablet and the entities that get impressed on it (Chiurazzi 2017, 42).

7 Some of Malabou's recent endeavors may seem to represent important exceptions: let us think, for instance, of her interest in AI and artificial brains (2019; 2023a), of her engagement with ecology and the Anthropocene debate (2017; Malabou and Majewska 2019), and her political works on feminism and anarchism (2022; 2023b; but see already 2011b for a reflection on femininity and philosophy). However, it seems to me that in exploring these topics Malabou is still guided by an underlying, profound question that functions as a general theoretical lens, and which could be labeled "the question on plastic subjectivity" broadly intended. This is, to my view, the *fil rouge* and philosophical sensibility that orient Malabou's work and make it so significant.

8 Lawtoo has critically analyzed this peculiar aspect of Malabou's theory and has offered a convincing explanation for it (2017, 1206).

9 Already in the introduction to the proceedings of the 1999 Colloquia at Le Fresnoy, Malabou called for "another materialism" (2000, 10), a materialism that should have been able to think anew the relations between matter and spirit.

10 Malabou's work on AI confirms the centrality of life for her materialism, since the difference between the biological and the technological tends to be obliterated in the direction of the development of "plastic machines" (2023a, 90), "electronic subjectivity" (88) and the hypothesis that "the future of AI [will be] biological" (87). Inorganic materials are not at stake in their own nonhuman and "non-intelligent" terms, and their functioning is framed on the model of the living.

11 For a careful and broad philological analysis of the transposition of this Greek vocabulary into Latin, see Auerbach 1939.

12 This is not to say that plasticity and mimesis end up being conflated with one another. In his text, Lawtoo explores the genealogical links between the two concepts in order to deconstruct the binary that divides them, but he also theorizes the plasticity of mimesis to preserve an interplay between the two concepts. The focus on a Janus-faced plastic-mimetic figure captures this connection (plasticity as one of the masks of mimesis) while maintaining the duplicity of the "faces" to preserve their respective differences.

13 Some steps in a similar direction have already been taken, see for instance Varga and Adams 2022.

14 On the differences between "matter" and "material" see Wagner 2001a, as well as Smith 1968.

15 The method of material complicity is also mentioned and applied by Dietmar Rübel (2012, 15), yet another exponent of German *Materialästhetik*, in his book devoted to plasticity as an art historical category. Ranjan Ghosh (2022) also develops a material-aesthetic approach that examines the conjunction of plastics and the arts from a perspective that resonates with mine.

16 In an often-quoted (but not very specific) short essay, Roland Barthes too underlined how plastic can be regarded first and foremost as an imitation material (2014 [1957]).

17 The ecological and political concerns raised by the human use of plastic materials are of the greatest importance, and they have been examined widely in the existing literature (among the many writings that could be mentioned, see for instance Gabrys, Hawkins and Michael 2013; Harvey 2014; Davis 2022; Abrahms-Kavunenko 2023). The politics of plastics being a rapidly growing field of inquiry, it would be necessary to examine phenomena of materi-

al mimetism from this perspective too, critically addressing them in the framework of the pathological materialism of capitalism. However, outlining a political critique of material mimetism goes beyond the scope of this chapter, while representing the most relevant direction for further research on this topic.

18 A few caveats are in order. Celluloid is a semi-synthetic polymer obtained by combining nitric and sulfuric acid with vegetable oils and camphor, which is why it cannot be said to be the first completely synthetic plastic. The very first polymer derived exclusively from fossil fuels was instead Bakelite, which was invented in 1907 and patented in 1909 by Leo Hendrik Baekeland. Moreover, slightly before Hyatt's experiments, Alexander Parkes had already presented his Parkesine (a celluloid with a different name) at the London International Exhibition in 1862.

19 From yet another perspective internal to mimetic studies (the one offered by Henry Dicks in the second volume of this series), it would be possible to frame the invention of Ivory Pyralin as an example of the biomimicry revolution, whose defining trait consists in human systems and productions being organized on the model of nature (Dicks 2024, 308).

20 Moreover, Lawtoo explicitly refers to mimesis as a "chameleon concept" (2022, 14).

21 In Caillois's approach we find the same transdisciplinary spirit that animates Lawtoo's research, and mimetic studies in general, which confirms the soundness of applying his analyses in this context; moreover, connecting plasticity and mimesis by observing their material, nonhuman encounter can be regarded as a diagonal theoretical gesture too, making the argument of this chapter methodologically consistent with mimetic studies at large.

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