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Atomism, Artefacts, and Affordances

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1. Introduction: The Artefactual Realm

This paper aims to be a contribution to the ontology of technology. We take it to be an ontology of action, but not one that privileges the category of "technical action". "Technical" hardly qualifies actions in a direct way; it is not easy to say what makes an action a *technical* one if it is not its being just skillful or artful. We think that the focus should change towards what we will call a *transformative environment*, that is, the *milieu* where our agency succeeds in tracing transforming-paths and trajectories. In transformative environments, instrumental actions take place when an articulation means/end is present, sometimes through an intermediary object that serves as an *instrument*. Instrumental actions are a basic component in the skillful and *technical* transformation of environments, but not the only one. Other kinds of actions, with symbolic, expressive or even theoretical dimensions, are crucial in shaping the transformative environments where we live and act. We cannot lose sight of this complexity of actions when developing an ontology of technology.

Transformative environments are habitats that have been substantially modified by the activities of animals that move in them constantly creating new pathways. Such environments are not necessarily the outcome of represented purposes, but constitute nevertheless the background against which animals deploy their skillful activities and build their technological devices and artefacts. The control over the pathways and the habitat they live in is characteristic of their technological engagement with the world. A second characteristic feature of these (technical) transformative environments is that they help in organizing new forces of transformation that crucially affect the agents that act in them. They are *active* environments, even if one does not want to regard them as genuine agents. They are transformative basically because a complex network of practical possibilities dwell within them. These *real* practical possibilities are usually articulated around objects that we call *artefacts*. These are the outcomes of the interventions that shape transformative environments, that is, independent items detached from them that become the objects the agents engage with to organize their own activities.

Artefacts make up a realm whose metaphysical status is not easy to discern. In this paper, we will address some problems in understanding the nature of artefacts as items that are part of those transformative environments where agents are able to identify possibilities of action. Our aim will be to challenge an assumption that has driven the recovery of artefacts for metaphysics, the *atomist assumption*, and propose an alternative that emphasizes the role of artefacts within complex transformative environments of artefacts and affordances. In the next section, we introduce the atomist assumption in the metaphysics of artefacts by drawing a parallel between artefacts and concepts. The third

section argues against atomism and defends that the physical, functional, and intentional dimensions of artefacts, in so far as they are relevant to the metaphysics of the artefactual realm, require a non-atomist, relational, account. In the fourth section, we describe artefacts as nodes that articulate affordances or possibilities of action in a whole transformative environment. Artefacts only stand out against the background of transformative environments in which agents pick up affordances and answer to their demands. Transformative environments are cultural niches; as constitutive elements of a niche, artefacts do not stand isolated; what they are, fixed by what they afford, cannot be specified without referring to other artefacts, (natural) objects, and obviously the (normative) practices that regulate the engagement with them.

2. The Atomist Assumption in the Metaphysics of Artefacts

The last decades have seen a recovery of artefacts for metaphysics. This recovery, as Amie L. Thomasson has remarked, resolves an unfortunate situation of neglect "since understanding the ontological status of artifacts is crucial to understanding the objects of concern in the social, human and technological sciences" (Thomasson 2009, 192). Part of this recovery has been governed by the idea that the genuineontological significance of artefacts asks for the identification of real or nominal kinds. Every artefact derives its identity conditions from its membership to an artefactual kind, that is, from those features that unify the members of the kind. These features could be established either by the very nature of the thing or by criteria relative to the use of the corresponding sortal terms. For instance, the question of what a screwdriver is becomes a question about what unifies the different kinds of screwdrivers. This could be related to the criteria that govern the use of the term and then we treat all of them as belonging to the same nominal kind. But there could also be a *real* nature to be uncovered, the analogue of a microstructure that explains the superficial features of the members of the kind. In order to identify those features that delineate the kind, several options are now at our disposal: we can appeal to the sameness of function to fix the identity criteria of kind membership or to the sameness in the productive intentions of the makers. Many other (intermediary) positions on this issue are now on the table.

We are going to defend that this path to the metaphysical recovery of artefacts has been driven by a reasonable, but misguided assumption. We will call it the *atomist assumption* following from which an artefact possesses by itself a set of characteristics or essential properties as an object that is identical to itself, isolated and independent of other objects. The identity conditions of an artefact are defined by its belonging to a kind (nominal or real) that is delineated by membership criteria that do not apply to other kinds of artefacts or entities. We think that this assumption ballasts our understanding of artefactual and technical environments.

Our talk of atomism in the artefactual realm does not refer to physical atomism but to what is discussed in the philosophy of language and mind as *conceptual* or *meaning atomism*. This is particularly important, because it suggests where to look in order to account for the significance of artefacts in metaphysics. It is not just a question of drawing consequences from the metaphysical dependence of artefacts on the concepts that are

constitutive aspects of the intentions of their makers (maybe not only of them). This has been the very enlightening strategy followed by Thomasson (2003, 2007, 2009, 2014) in her metaphysics of artefacts. Our starting point and inspiration is an analogy between concepts and artefacts, such as has been proposed by Fernando Broncano (2009, 2012). The parallels between them are very instructive. They are so close that one is even tempted to claim that artefacts exhibit the *very same* metaphysical features as concepts. Let us introduce two of those parallels**.**

First, we can regard concepts as "intellectual" units that organize our experience in judgments. In the same way, we can talk about artefacts as "material" units that organize our experience in actions. Both concepts and artefacts intervene in the delineation of a space of possibility and necessity that is the result of exerting what the Kantian tradition has called our spontaneity. They initiate us in a space of rational constraint and freedom that is characteristic of our inhabiting the so-called second nature (Vega 2011). Artefacts articulate rational constraints in the domain of agency. They help us to give birth to procedures to transform reality that are at the same time tools to transform us as agents with our intellectual and practical abilities and competences. Broncano explains it with clarity: "Asserting a state of affairs under a concept or skillfully bringing about a state of affairs are two ways of transcending the causal order of things through the exercise of spontaneity" (Broncano 2012, 89; our translation). Artefacts manifest a way of being that is not detachable from the sort of intelligibility that is tied to the exercise of our spontaneity (Vega 2011).

Secondly, concepts and artefacts share several features concerning their respective normativity. Just as the normativity of a concept is strongly tied to the set of inferences to which we are entitled by its possession, so the normativity of an artefact is given by the set of actions to which a competent agent is entitled. But it is not only that. Both of them exhibit the characteristic structure of an achievement. As F. Broncano rightly points out again, "concepts and artefacts shape our horizon of effective possibilities and their use should be efficient" (Broncano 2012, 90). The normativity of an achievement is given both by its success conditions and by the metaphysical dependence of success on the exercise of a competence. Therefore, the achievement in the application of concepts captures the normativity characteristic of judgings; the achievement of putting into use artefacts captures the normativity characteristic of our artefactually mediated agency.

Concepts are rightly viewed as the units of thought; artefacts can be regarded as the units of our ability to transform environments. Units? No doubt. Our challenge to the atomist assumption does not want to deny that artefacts are taken as units; what we will deny is that they have any sort of metaphysical independence regarding other units, mainly artefactual. They need to be characterised relationally and as taking part in meaningful "wholes" in our transformative experience of environments.

Let us explore in more detail the atomist assumption. In order to do that, we should maybe remember two well-known semantic principles of Fregean inspiration: the principle of context and the principle of compositionality. Both of them can also be applied to the domain of artefacts. Or so we claim. But doing so does not come without consequences

for our metaphysical understanding of artefacts. The principle of context states that the semantic value of an expression is a function of the contexts in which it appears. There could be a corresponding principle in the realm of artefacts. We could define a sort of semantic value understood as "transformative value" that is the specific contribution that the artefact makes to the different contexts in which it appears. The context includes other artefacts, (natural) objects, agents and specific actions; the artefact needs to compose with this complex set in order to have a concrete value as transformative tool.

The principle of context usually goes with a compositionality principle that claims that the meaning of a complex expression is a function of the semantic values of the units together with the rules of composition. True enough, it is not easy to identify the sort of "complex expressions" that are part of the artefactual realm in the same way as we do in language, but we can coherently think that compositionality is exhibited at least at two levels: at the level of the objects themselves and at the level of the actions they entitle the agents to. Artefacts crucially compose with other artefacts; it is this combinatorial nature of the technical elements that explain the growing complexity of our artefactual world. This structure is better understood as a set of constraints and possibilities that prevent/enable certain combinations. The fitting together of units according to certain rules is also essential to the artefactual realm. The compositionality at the level of actions is easier to grasp; actions mediated by artefacts compose in more complex agential expressions.

Atomism could be viewed as an explanation of the widespread application of both principles in the artefactual realm. Let us take a particularly successful strategy in the metaphysics of artefacts that is committed to some version of atomism: the view in which the essence of the artefact is captured by its (proper) function. The artefact, as the unit that can enter into several different combinations and artefactual contexts, is defined by what it is supposed to do and essentially characterized by a functional property (or properties). There are many ways of spelling out functional views of this sort. Consider one proposed recently by P. Kroes (2012). The identity of the artefact is given by the (technical) artefactual kind it belongs to and there is a functional property that determines in turn kind membership. The functional property in question is fully determined by a "largely successful execution of a largely correct design" (p. 118). The functional property *of the artefact* in virtue of belonging to a well-delineated artefactual kind sets the contexts and combinations open for the artefact.

One could argue that nothing in this definition encourages an atomist reading. On the one hand, success in bringing into existence an artefact of the kind requires that other material and practical conditions be satisfied, among which the availability of other artefacts, agents, and technical capacities is crucial. These requirements can even become explicit in the process of design. What is important to realize is that none of these elements contribute to the fixation of the functional property that metaphysically characterize the artefact as such and its particular "for-ness". There is something that the artefact is supposed to do and this corresponds to the functional property that has been selected by design for each artefact. On the other hand, they become the basic artefactual units that define the possibilities not only of combination but also of being included in new contexts

of use and articulation of artefactual complexes. And if it is so, the attractiveness of atomism is now easy to understand: each artefact provides a sort of transformative value; this value fully depends on the functional property that defines the kind of artefact it is; when it is adequately combined with other transformative values, it enables a new complex of artifacts and makes up technical environments.

3. Beyond Artefactual Atomism

But is the atomist assumption plausible in the artefactual realm? We think it is not. We can sketch the core of this assumption in the following terms:

> **(Atomism):** *Artefacts are units whose transformative value within a context is determined by the properties that define what they are independently of any other element (artefact) of the transformative environment.*

We argue that this assumption obscures the nature of artefacts as core elements of transformative environments. We start by identifying at least three dimensions that traditional theories appeal to in order to metaphysically characterize artefacts: i) *physical structure* and the capacities of the object; ii) *purely functional features* or *the "for-ness" dimension*, which involves identifying what the artefact is supposed to do; and iii) *intentional states* of the agents (designers/users), which contribute to setting the function of the artefact. In the rest of this section, we will argue that if we want to understand the role played by artefacts in transformative environments the atomist assumption is to be rejected in any of these dimensions which underlie almost every metaphysical position about them.

3.1. The physical dimension

Obviously, physical structure is relevant in order to establish the identity of artefacts; additionally, physical structure is a core element when determining their function, normative use and the kind of interaction that agents establish with them. For instance, the sharp edge of a knife is a relevant structural property for a knife to be recognized as such and to be able to successfully satisfy its function; in the same way, a wheel must be (more or less) round in order to be what it is.

However, to think that the physical and structural properties of an artefact can be conceived in isolation is, if not naïve, then at least unfruitful. The physical structure of a given artefact is only significant as far as it is combined with other physical properties of the environment that allow the artefact to be properly and successfully used, for instance. Let us come back to the example of the knife: the sharp edge seems to be a structural property, which is essential to identify the knife as such; but a sharp edge only makes sense when it is combined with other properties of the environment (properties of other artefactual or natural objects, or embodied properties of the agent). So a knife cuts when there is a surface hard enough or when an agent holds strongly enough what is going to be cut, and, obviously, there is a material with certain structural properties that allows it to be cut. In the same way, the circular structure of a wheel is only materially significant in interaction with other properties of the environment, like the flatness and firmness of a surface.

It could be argued that these conditions are merely contextual; this is true in a sense, but deeply wrong in another. True, because at the same time it is the form and matter characteristic of *being a knife* that counts even if they only manifest the corresponding physical and causal capacities within a context and in the right circumstances. But it is wrong to treat these conditions as part of a context so narrowly understood. It is not just a one-time context of appearance what is at stake here. First, a knife is still a knife in contexts where there are not solid surfaces, and a wheel of a car does not cease to be a wheel when the car gets stuck in the mud (and the wheel cannot satisfy its function successfully). When we say that the physical and structural properties of artefacts only make sense in relation with the physical and structural properties of the environment it is placed in, we are pointing to a wide and stable environment where the "history of life" of an artefact takes place: for instance, the wheel, as an artefact, could not be *conceived* in an environment where there were no flat and firm surfaces**.** In short, the physical description of an object is not just its structural description, that is, the description that identifies how its function depends on its structure (if we take the function as essential for being such an artefact and the function as fully determined by the structure.) An adequate physical description of an artefact should mention other artefacts, natural objects, and even the physical conditions of (intentional) agents. Its structural properties cannot be fixed without the material conditions provided by other artefacts, like for instance the dependence that cars exhibit on wheels and roads, even if this sort of dependence is flexible, variable and comes in degrees. The material dimension of a particular artefact is fixed within a network and a background of other material objects and agents, in such a way that the materiality of the artefact can be seen as just an aspect of the environment of the material culture in which it is inscribed.

3.2 The functional dimension

Secondly, atomist assumptions are more widely spread with respect to the functional dimension of artefacts. Functional descriptions concern basically the "for-ness" of the artefact. This very fact allows us to see how any functional description points to other artefacts and objects in a very direct way; a wheel is for moving other things or people, it is not just for moving itself; a knife is for cutting something that is not itself, and so on. But there are other more convincing considerations that argue for the fact that any functional description involves a whole environment of artefacts and that any attempt to determine the function of an artefact in isolation systematically fails. Taken in isolation, the determination of the function of an artefact is always threatened by ambiguity. The function of an artefact can only be disambiguated if we also consider the context in which it is inserted. Let us imagine, for example, a wine decanter, an artefact whose use and function are very specific. A wine decanter isolated from its proper context –and from the environment that it creates around it- is not very different from a vase in which we put flowers. What we could call the intrinsic properties of the object are compatible with both functions and there is nothing in the object itself that lean us towards privileging one or other functional description. Thus, we are before an artefact whose nature remains undecided in so far as it is considered without reference to other artefacts and objects.

The environment of artefacts and agents becomes essential in the understanding of the functional nature of the artefact.

Once again, a parallel can be drawn between artefacts and concepts and we can thus apply to artefacts the Wittgensteinian lesson about how to treat misunderstandings about meaning. Appealing to the context is required. But the context extends to the activities, practices and techniques that help us to highlight the *point* of using the word. A stable environment where the history of the life of the artefact makes sense is needed, but also a complex physical context, other artefacts (and their functional profile), objects of any kind, agents, and even cultural practices, ways of doing things, regularities and characteristic reactions, regular action-paths, and so on.

Keeping this in mind, let's come back to the example of the wine decanter/vase for flowers. The object can be functionally defined as a decanter when it is put, within a certain environment, in relation to a constellation of elements: other artefacts (glasses, wine bottles, corkscrews, etc.), certain cultural practices (for instance, the ritual of having dinner in a posh restaurant), ways of doing things (such as the proper activities of waiters and sommeliers), etc. This context, this constellation of elements, enables certain actions for an agent who makes a successful identification of the function of the artefact, of the purposes that grow only in this kind of environment of other objects. It is, precisely, by enabling these actions that a non-ambiguous functional description is possible.

The nature of an artefact is inseparable from the framework of intelligibility in which it is inscribed, and this framework is constituted by a changing, but also stable mutual fitting of multiple material artefacts and agents in interaction. This *fit* is normatively regulated and this is why artefacts seem to exhibit the normative force characteristic of a demand to act that is only manifested within the particular settings in which artefacts seem unproblematic with regard to their *proper* function.

3.3. The intentional dimension

We come lastly to the atomist assumptions that come with the intentional dimension of artefacts. One of the most fruitful views in the metaphysics of artefacts is the one that defends that the nature of artefacts is determined by the content of the intentions of their makers, a content that necessarily includes a substantive concept of them (Hilpinen 2004; Thomasson 2003, 2007). The identity of each artefact, and thus the identity of the kind, is given by the intentions of the makers. There is a set of intentional conditions that are sufficient for the identity of the kind. But the question is then whether these intentions can be isolated in such a way that the "conceptual content" that contributes essentially to the delineation of the kind is fixed without referring to the environmental conditions where the artefact ultimately is placed.

On the one hand, a maker's intentions are the product of a long history of interactions within a cultural, social and physical environment. Instead of conceiving intentions as mental states that can be individuated on their own, we believe that it is more promising to understand agents' intentions as a form of coordination with the environment in which the constellation of artefacts, practices and agents makes some intentions and courses of action available.

On the other hand, and in general, the intentional dimension that artefacts paradigmatically exhibit cannot be identified with the intentions involved in the making or in the intentional use of the artefact or even in the intentions that become recognizable in the very artefact itself. It is not possible to isolate a set of intentions (or intentional states) that is *proper* to the artefact. In fact, its very reality as an artefact comes to life only when it genuinely contributes to make available purposes inside a concrete transformative environment where other artefacts are recognizable as such. That is to say, intentions *grow* within an environment that is already meaningful to the agents, and this meaningfulness cannot be severed from the rich set of intentions other artefacts help to articulate.

In brief, the identity and meaning of an artefact is set only within a complex environment of other artefacts that already are a substantial aspect in the agential involvement of the organisms. Any of the dimensions that could be used to formulate a metaphysics of artefacts –physical, functional, or intentional- need to be considered from a relational point of view. If any of them contribute to define the nature of the artefact, it is because they immediately refer to other artefacts and objects the agents engage with in a particular transformative environment. The physical description of an artefact is only significant in metaphysical terms when its physical capabilities are seen in the light of the physical properties and capabilities of other objects, particularly other artefacts. The functional description remains ambiguous if we do not appeal to a whole environment of artefacts, (normative) practices, and agents. Finally, if the artefact acquires any identity conditions from the intentions of the makers and users, these intentions only grow inside a transformative environment where certain possibilities of action become salient for them and where certain of their competences are crucially tied to other artefacts and objects. Atomism does not seem to be the right strategy to delineate identity conditions for artefacts.

4. Environments and Affordances

We have argued that the identity of an artefact -its mode of being- is not defined by a property or a set of properties of the object as such, without reference to other elements that constitute what we have called a transformative environment. Recent contributions in the metaphysics of artefacts, we think, have shared an atomist assumption. We propose instead to view artefacts from the perspective of objects that occupy a certain place within a temporally and spatially extended environment. The artefact is like a node within a complex network of agents, artefacts and practices that normatively regulate their interactions.

The identity of these nodes is, at the same time, essentially tied to the possibilities of action offered by the artefacts. They become detached units within a transformative environment once they are perceptually detected as possibilities of action. The artefact manifests then a set of *affordances*. Artefactual environments are also, and in a fundamental sense, environments of affordances. A non-atomist conception of artefacts goes beyond a phenomenological emphasis on the structure of interaction and engagement between a concrete artefact and an agent. The significance of the artefact

grows inside a transformative environment where a set of interrelated affordances become perceptually salient. Stable structures of affordances make up transformative environments and organize the interactions with a network of artefacts.

For Gibson, "[t]he *affordances* of the environment are what it *offers* the animal, what it *provides* or *furnishes*, either for good or ill" (Gibson 1979, 127). He was interested in bringing to the foreground a particular conception of the relations an organism maintains with its own environment, relations that should not be viewed as mechanistic exchanges but as meaning-generating interactions. Meaning and value are notions that really hold for the environments where the organism acts. The notion of affordance captures this aspect of the relation by identifying the meaning things have for action. The environment is meaningful because it contains *affordances*, opportunities of action that ground the significance of objects, places and features within it. "The meaning or value of a thing consists of what it affords" (Gibson, 1982, 457).

This complementarity organism-environment and the idea that affordances are primarily *of the environment* (not of the object) are crucial in our approach. Affordances are perceivable possibilities of action for an agent within an environment and they cannot be isolated as properties of the artefact/object as such. They structure the interactions between agents and artefacts and give meaning to particular objects only through a dense network of exchanges. The meaning (on which the identity of the artefact depends) is delimited by the spectrum of possibilities of action and constraints available for an agent in the environment. Some subset of these possibilities and constraints could be attached to a particular artefact, but this involves a learning process in which agents grasp the rules and classificatory conventions –obviously flexible and open to change- that regulate the interactions with the object and with other objects and artefacts. In short, affordances constitute, so to say, the potential of mediation the artefact opens for an agent. They guide agency through the artefact.

The notion of affordance that we defend can be summarised in the following five features:

i) Affordances can be seen as *practical landmarks* inside a space of artefacts and agents.
ii) Affordances supervene on the relations that are established between artefacts and agents and, therefore, they are better viewed as features of a niche or environment and not of the object itself.
iii) Affordances are relationally and dynamically determined by the abilities that enable an agent to engage with the artefact.
iv) The environment is structured by the set of affordances or practical landmarks.
v) Affordances solicit actions from agents, they do not either determine them or cause them.

This conception of affordances leads to several conclusions about the relation between artefacts, environments and intentional agents:

First, the mutuality that characterizes the nature of affordances implies, on the one hand, that affordances are established by a process of interaction between agents and objects;

there are not affordances prior to the interaction. On the other hand, affordances *invite* the performance of certain actions in relation with those objects, as Withagen et al (2012) have suggested. The existence of affordances is manifest only under certain conditions of intentional interaction; at the same time, intentional interaction is guided by these affordances.

Second, intentions are not hidden aspects of the interaction; they become perceptually accessible through it. It is, precisely, because the agent understands the context of intentional relations where the artefact is inserted, that she grasps certain possibilities of action, which have a special value for her and are intimately related to the meaning of the artefact. We will call them *intentional affordances*: they are grounded on a shared cultural framework in which agents understand the intentions other people exhibit in relation to the artefact or to the world through the mediation of the artefact (Tomasello, 1999). Affordances, as we have said, are practical landmarks that require a certain understanding of the intentional relations that people have towards the object.

The concept of intentional affordance helps us to explain a central fact about the nature of artefacts. Any object, including artefacts, offers to an agent many different affordances and it can be used in different ways. Now, not every possibility of action offered by an artefact is constitutive of its identity, of "what the artefact is". Only a small set of affordances points to the privileged use of the artefact, a use that, somehow, gives access to what the artefact is. The notion of intentional affordance highlights the difference between these particularly relevant affordances and the rest: the privileged use of an artefact is determined by the intentional context the artefact is embedded in. Intentional affordances are those that are systematically exploited by other agents and create a normative use of the object. We do not run into the things; other people present them for us. Among other things, learning to perceive the intentional affordances of a given artefact implies *knowing how* to make proper use of the artefact, *recognizing* a given artefact as such, and also *understanding the intentions of other agents* within the artefactual space.

Third, affordances are necessarily interdependent. Intentional affordances depend upon complex networks of agents, objects and intentions. Then, if artefacts are characterized by their intentional affordances, the resulting network is essential to the identity of the artefact. Atomism, therefore, should be false and the artefact could not be defined without reference to other artefacts and the affordances they exhibit within this particular environment or cultural niche. It is not possible to simplify this relation by claiming that intentional affordances have been "put there" by the maker. If so, it would be possible to understand and use a given artefact without understanding the complete intentional context where it is embedded. It would be enough to get access to the intentions of the maker. Could an artefact be meaningful even if it remains isolated from its artefactual environment? Fiebich (2014) suggests that it could be so for some intentional affordances of the artefact. This falls prey again to the atomist assumption. Intentional affordances are not even conceivable if there is no shared intentional space that entails the existence of other artefacts and privileged (culturally mediated) interactions with objects.

Fourth, in so far as intentional affordances invite agents to perform certain actions, they are an essential aspect in shaping their intentions and they cannot be viewed as a mere outcome of them**.** This means that in our interactions in contexts of material culture, the notion of intention needs to be reformulated. Malafouris points in this direction when he claims: "The artefact should not be construed as the passive content or object of human intentionality but as the concrete substituting instance that brings forth the intentional state" (Malafouris 2015, 33).

To sum up, artefacts are necessarily tied to other artefacts through the affordances that they exhibit for agents that share a cultural niche, a transformative environment where certain possibilities of action become real and salient. As we have said, affordances do not primarily belong to each artefact; they do not attach to the object itself as if they were its properties. They are what they are because they can be detected by agents appropriately tuned to an environment full of artefact networks and regulated by normative practices that exhibit both discriminatory, recognitional, and classificatory aspects. Artefacts are just transformations in the space of pragmatic possibilities of action within a culture, as Fernando Broncano has written (2012, 100). What a particular artefact affords is an invariant within the multiple relations that contribute to build a certain environment or space of artefacts (and agents). An artefact is just an item within a constellation of objects that hold stable relations among them and enable shared cultural practices. We hold that the identity of an artefact is given by the affordances that constrain our agency within a cultural niche. It is because the artefact is not given in isolation that we are able to culturally constrain the possibilities of action that an object affords and so define the object as such an artefact. The metaphysics of the artefactual realm cannot be developed without taking into consideration the nature of the transformative environments we live in, that is, without describing complex networks of artefacts and affordances.

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