For us, the word “technique” connotes the world of technological artefacts, each of them having their own function. Nevertheless, this word comes from the old Greek word *technè*, which meant both arts and technology, and could in the medieval times be accurately translated in Latin by “*ars*”. Indeed, “*ars*” shared the same ambiguity as *technè*, as does the German *Kunst*, since *künstlich* is used as much for “artistic” as for “artificial”. But when the “liberal arts” began to include painting, sculpture, and so on, previously belonging to “mechanical arts”, those two words split and began to name two different things. In the end, “art” meant only the “artistic” side, and “techniques”, the side of technological or technical artefacts. The division between “artefacts” and “objects of arts” became something taken for granted in European thinking. Of course, this shift had both “internal” reasons, within the artists’ practices (concerning the difference between working according to a tradition in order to deliver a piece of art, and working spontaneously in a non-useful fashion, and so on) and some “external” reasons (some craftsmen vindicating privileges due to the special situation of their practice among the group of so-called artists; see Heinich 1999). However, in the present perspective the common root of technology and art in this old experience named *technè* could prove to be illuminating concerning the status of artefacts.

A problem with artefact is the extent to which their functions have to be conceived as being nothing else than intentions of their designers or their users (Achinstein (1977), Millikan (1984), McLaughlin (2003), Vermaas and Houkes (2003), Longy (2008 a,b)). Here, using the comparison with the work of art, which is supposed to bear a certain relationship with its creator’s intention but has no self-evident function, might help to solve this problem. I will claim that both artefacts and works of art share a specific kind of intentionality, which I call *intention*²; although this *intention*² is not sufficient to define an artefact’s func-
tion, analyzing the conditions of its recognition in both art and artefacts will show helpful for the epistemology of functional ascriptions to artefacts. In the end, I will address the question of the ontological status of the artefacts by focusing on the case of ready-mades, by which an object change from one kind to another by a shift in its function and intentions of use.

1. Art and artefacts: a parallel

The first and simplest experience of “technique” is, epistemologically speaking, the insufficiency of the mere perception to determine the nature of the item—whether it is precisely technical, and which kind of artifact it is.

What is common between the two meanings of the old word “technè”, e.g., technical objects and artistic objects, is that we cannot state their nature by a simple perceptual inspection. Let us imagine two or three stones in the middle of a little river. This is what we see: “stones in the middle of a river”. If people cross the river by walking on the stone, then we will say it’s a bridge. The user’s intention here is the criterion used to ascribe a function to the stones, and then to assess their nature as a “bridge”. But if there is a sign beneath the stone, saying that it is a piece of Land Art called “man against nature”, then we will understand that this stone is a work of art embedded in a wide artistic project of highlighting the dialectical relationships between man and nature. So we cannot determine what the nature of an artefact is (whether an artistic or technical object), unless we grasp some intention regarding this item—be it the user’s or the designer’s intention.\(^1\) More generally, objects stemming from technique are prima facie addressed by “why questions”:\(^2\) why is it like that rather than like this? A purely perceptive account of an artefact is not sufficient unless it yields an answer to this why-question. That is why technical objects are often (like lots of others) described and even named (unlike some others) in functional terms: “that is a screwdriver”, meaning it is used to turn screws; “that is a can

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1 Here, philosophy of artefacts faces exactly the same challenge as philosophy of action: the unavoidability of referring to an agent’s intention in order to describe an action as such, given that a merely physical depiction of this action is not significant in any manner. We can invoke Anscombe’s Nazi plotters and the river filled with poison (Anscombe, 1963); or, more simply, remind Danto’s example of someone’s raising his hand: is he showing his presence to a friend, having a spasm or calling a cab (Danto 1981)?

2 On why questions, see «Why ask why» (Salmon (1998), pp. 125–142.)
opener”, meaning it’s used to open cans, and so on. The nature of a bridge is not: “to be situated between two shores”; it is: “to allow someone to go from one bank to the other”. The nature of a technical object cannot be settled by a perceptual investigation because such nature lies in the answer of a why-question, regarding why it is like it is and therefore is likely to be used as it is used.

The concept of function is, at first blush, to be understood in the framework of some why-questions: why do vertebrates have hearts? Because they allow the circulation of the blood. Why do birds have feathers? Because they allow birds to fly. Hence the function of the feathers is to fly and the function of the hearts is to pump the blood. Thereby, the definition of an artefact, to the extent that it is the answer of a why-question, is to be given in functional terms. At first blush, those functions of artefacts state what are the intentions of the people who are using them. In fact, Vermaas and Houkes (2003) established that, in the case of artefact functions, this appeal to intentions is necessary even in the framework of a so-called etiological theory of function3 (especially to account for the rise of new artefacts), whereas this kind of theory (Millikan, 1984, Neander, 1991) has been elaborated in order to give a purely naturalistic account of function.

In the case of artefacts, the function is usually given by the instructions of use. The “user’s manual” always says: “do X, and then it will do Y”—and this attests that the function of the artefact is to do Y by doing X. Once again, this parallels the case of the work of art. One doesn’t always know, by seeing a painting, what it is, or more precisely (in Goodmanian terms) “how should I see-as”; but the title, under the frame, can state it (or at least provide some help…). Let us refer to Danto’s example (1981): a totally red canvas entitled “Nirvana”, is something else than a totally red canvas entitled “the war”, or a totally red canvas entitled “N° 14”.

The instructions of use specify the designer’s intention and the user’s supposed intention (e.g., how she should use it); the title indicates (more loosely, for sure) the artist’s intention (let’s neglect the way through which it’s specified, be it by a joke, by an assertion or by a euphemism). Therefore, titles and instructions of use are two ways to supplement the perceptual account in order to grasp the “intention” behind an item as an artistic or technological item. This supplement allows one to answer the why-question concerning the item, and hence, to state its

nature, which should be expressed in functional terms in the case of artefacts.\(^4\)

More precisely, in those two cases two types of intentions are linked in a specific manner. The title of a painting is not exactly specifying the painter’s intention, but the painter’s intention “that the spectator sees it in this way”, etc. Therefore, it is an intention bearing on another intention. Regarding an artefact, instructions of use mean an intention that the users must use the item in such and such way. So if we call intention\(^2\) this structure of intention directed toward a second degree intention (“A intends B to use X in a way Z”), then generally, to settle the nature of an artefact—be it technical or artistic—i.e., to answer a why-question concerning it, is to determine an intention\(^2\) concerning it.

The point here is that phenomenologically speaking for an artefact there is always a tripartite relationship between a user, a designer and the artefact, rather than a twofold relationship between a subject and a thing. The positions of the user and the designer are not identical, in the sense that the user is not supposed to have the knowledge the designer has (and, moreover, the designer is supposed to presuppose a user not having such knowledge), and the user’s intention is therefore not constrained by the same rational contrivances that impinge on the designer’s intention. This lack of interchangeability entails that there is no dual intentional relationship to hold between an artefact and a subject. Hence to account for the structure of intentions regarding artifacts, one has to consider second-degree intentions, namely intentions bearing on other intentions. This means that one has to make a similar move as the one effectuated by Grice when he came to study pragmatics. Here too, he had to consider which constraints upon statements are stemming from the fact that statements are intended to be understood by someone else than the speaker. Meaning is then considered by Grice not only in terms of verification but also in terms of intentions aiming at propositional attitudes: “Perhaps we may sum up what is necessary for A to mean something by x as follows. A must intend to induce by x a belief in an audience, and he must also intend his utterance to be recognized as so intended. But these intentions are not independent; the recognition is intended by A to play a part in inducing the belief, and if it does not so something will have gone wrong with the fulfillment of A’s intentions”.\(^5\)

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\(^4\) As Wiggins (2001) says, the artist’s “conception of the outcome and calculation of the effect” plays for a painting the role that the function plays (albeit imperfectly) for an artefact (p. 137).

I claim that, generally, the understanding of artefacts has to be displayed in the context of general human interaction, which implies that I advocate a kind of pragmatics of artefacts.

This perspective is quite akin to Bratman’s idea of replacing a desire-belief centered theory of action by an approach focusing on plans and planning; in effect, a major feature of plans in this conception is that they are partial and open to revision because they are meant from the beginning to permit coordinate action between several subjects. The notion of intention\(^2\) parallels then Houkes and Vermaas (2004) notion of “use plan”\(^7\) since in both cases emphasis is put on the dimension of communication that underpins the practical use of artefacts. But intention\(^2\) is a broader concept in the sense that it allows us to deal with the work of art, since artists do obviously not produce sequences of instructions that can count as use plans.

Such a pragmatic move concerning artefacts allows us to avoid the classical pitfalls in the intentional theories of artefacts. For example, in chapter 2 of What functions explain? McLaughlin holds the radical position that any kind of intention regarding something makes it an artefact with such a function. This position is of course exposed to the objection that a crazy ascription of function, like thinking that the moon is my personal mosquito repellent, is not sound. But if the intention constituting the function of an artefact has to be directed towards another intention, those intentions\(^2\) might be submitted to some norms of shared rationality that would make such difficult cases irrelevant. And finally, this pragmatic move makes the consideration of intentions yielding functions of artefact immune to Longy’s critique (2003) that the intentional perspective renders the functions of artefacts subjective, whereas according to Longy functions are objective in the sense that they do not depend on a subject’s changes: here, the twofold nature of intention\(^2\) makes it unlikely that functions would change according to arbitrary changing moods of one subject. For instance, concerning the moon-mosquito case, no user could actually use the moon as a mosquito re-

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6 Bratman (1987), pp. 8, 29, 35, etc.
7 “A use plan of object x is a series of such actions in which manipulations of x are included as contributions to realizing the given goal.” (p. 57); thereby, designing an artefact includes the construction of a use plan (p. 58), albeit this point is often undermined. I would say that Garbacz’s (2008.) characterization of artefact’s designs as intentional states of affairs is insufficient because the use plan (in Houkes – Vermaas terminology) or the folded structure of intention\(^2\) (in my terminology) is missing; or in other words, what is missing in Garbacz’s account of artefact types as intentional objects is the pragmatics of artefacts.
pellant, so the relevant intention\textsuperscript{2} is impossible and the function ascription becomes vacuous.

More generally, the intention\textsuperscript{2} is not as straightforwardly correlated to the specific and conscious purpose of one designer as the idea of intention. Therefore it may account for the cases like the natural bridge, cases of an artefact naturally created and stemming from no human plan, because we can see the user’s intention as an intention directed towards other user’s behavior. In effect, the mere fact that I cross a bridge commits me to believing that it is a “walkable” bridge, and then to lend to other people this potential intention of crossing it. (On the contrary, if climbing a given bridge is so hard that it would entitle me an entry in the Guinness book of world’s records, then my intention is not directed towards the other’s intentions, and we will not say that it is a “bridge”). Moreover, this intention of some user can be seen from his acting—thus, the idea of an intention as a mental and conscious event is here unnecessary, intentions displayed in intentional acts like in Anscombe’s account of intention (1963) would be plainly enough.

However, regarding this concept, the difference here between the two cases (artefacts and art) prima facie seems that the matching between the two intentions of the maker and the user is tighter in the case of an artefact. If you despise the owner’s manual of your software, things won’t go right; if you ignore the title of a painting, you can still appreciate it (think of an old painting by Botticelli, like this portrait of a young man, whose title is lost).

This leads us to the second point: a simple account of an intention\textsuperscript{2}—in this complex form of “intention to an intention”, sketched previously—is not sufficient to determine the nature of an artefact. The case of the painting is obvious: the designer’s intention cannot account for the painting because the painting is underdetermined by such intention. As a work of art, interpretations that were absolutely not a part of the painter’s intention are still part of the painting’s meaning. For example, Freud’s interpretation of the homosexual character of the Virgin in the rocks could be included with some reason in “what represents this painting”; but it was obviously not Leonardo’s intention. And, if someone replies by invoking some “unconscious intentions” (whether this concept is accurate or not), there is the more radical case of Jorge Luis Borges’s famous story “Pierre Ménard, author of Quichotte” (in Ficciones): due to the historical distance, Cervantes’ Quichotte, written by someone else three centuries after its publication, can acquire, sentence by sentence, a meaning which could not be accessible to Cervantes himself.
However concerning an artefact too, the matching between designer’s intention and user’s intention of use (and then behavior) can fail. So, the appeal to those intentions (concretized in the “instructions of use”) can be insufficient in order to account for the artefact. In biomedical research, the major psychotropes, used to reduce anxiety, relieve psychotic crisis or help depressive suffering, resulted from a research carried in another intention. Afterwards, people just witnessed that such molecules had an effect on those symptoms. Then, this side effect became the definitional function of the molecule: this is the classical case of chlorpromazine (Ehrenberg 1998, Zarifian 1988).

Biologists speak of “exaptation”, which is the change from a previous function at times of the origin of the trait (like feathers as thermoregulators) to a new function that accounts for the maintenance of the trait (like feathers as flying tools). Cases about artefacts such as chlorpromazine bear some similarities with exaptations, but if we define an equivalent of the biological primary function by an appeal to the inventor’s plain intention, this primary function has never been functional contrary to the secondary function, meaning that this intention never mirrored the user’s intention and behavior (an intention has never been actualized). We could call that a quasi-exaptation. Hence, the case of quasi-exaptations concerning artefacts proscribes us to equate a designer’s intention with the necessary conditions of ascribing functions to artefacts. So, in order to state the ontological status of intention within the nature of an artefact, we will ask: how do we ascribe functions to artefacts when intention is difficult to see? Beginning by this methodological and epistemological question, we then will be in the position to answer some ontological questions about artefacts and intention in artefacts.

2. Epistemology of functional ascriptions

An intention can be deciphered, in the case of an artefact, by registering the user’s behavior, according to some psychological inference rules (“if A walks on the stone on the middle of the bridge, it is because A wants to go to the other shore”). If we want to use the usual analogy between artefact and organisms, which would allow us to speak of functions of artefact in the same sense than we talk of the function of an organismic

9 On the other hand, in the biological case, the primary function was called function through its past effect on enhancing survival, whereas the exapted function is a function since it currently enhances survival in that way, so they are two functions in the same sense.
trait (see Millikan, 1984), then to ascribe a function to an artefact places us here in the same position as an ethologist. But a problem occurs when we have no evidence of how users behave; therefore, we are facing an artefact in the same position as a paleontologist considering an organism from the past. Thus, like this scientist who has to reconstruct the environmental demands undergone by an organism, we have to make hypotheses about why this thing has its peculiar design, therefore, about which demands this design was supposed to fulfill. The archaeologist finding some vestige, then, is in the same posture as the paleontologist. The ethnologist in another civilization, although she is not facing the past, experiences a similar problem: some artefact may have no obvious function for her, because she is not familiar with the demands bearing on artefacts in this particular culture.

Two remarks. First, the artefact must be identified as such before any functional ascription. It is done, generally, by using the old Aristotelian distinction between nature and technè: if an object can hardly be supposed stemming from natural processes, then we shall say that it is an artefact—or a piece of art (the two cases here conflate). In the case of the archaeologist, this cannot guarantee that all artefacts will be identified—maybe some pieces like the natural bridge, will be left aside, because they result from a natural process. Thereby, not all the artefacts of a lost civilization can be recollected. Of course, artefacts with a status akin to the natural bridge could be identified later, whence some aspects of the past civilization have been uncovered (for example, the fact that in their villages, there was always a river to be crossed: then, this stone in the middle of the river in this village should be a bridge. But this is a kind of second-level inference).

Second point: the psychological inference rules used in order to derive an intention from the users’ behavior are not immediately available in the archeological or ethnological cases, because they can be local rules, unable to be translated from the past or elsewhere. This relativistic argument, whose general applications are now challenged by evolutionary psychologists, is in this case impossible to dismiss because at least we must have some guarantees that our ordinary psychological rules are translatable.  

10 Any ethnological book could be an interesting example of the locality of some major inference rules, particularly in the domains of mating and politics, which are some of the main topics of ethnological inquiry. For example, Nigel Barley (1986), quoting some indigenous reasoning: “A cannot be in love with B (his sister in law), because A usually has sex with B”—this inference could hardly be seen as a piece of our usual reasoning.
The examples of the archeologist and the ethnologist indicate that to state an intention concerning an artefact is a hypothetical operation. We have to possess some inference rules, and to know the daily context of use of the artefact. And, moreover, there is an unavoidable circularity in reasoning because, if we reconstruct the inference rules as well as the intention concerning artefacts, only those intentions reconstructed and proved right can confirm the inference rules we would have already supposed. So, here is a kind of hermeneutic circle perhaps unavoidable when all is about getting aware of other mind’s intentions and ways of life.

Nevertheless, even if we undermine those methodological difficulties, we face again the problem of the work of art. Let us imagine an archaeologist finding a carved piece of stone. Suppose she assumes that it is the extremity of a former arrow: its sharp form, its thinness, the roughness of the stone, indicates that it was used to hunt (thrown with a considerable strength, it can kill a buffalo). But now, another archeologist, or an ethnologist expert on the populations of this part of the world, asserts that in fact this stone has no hunting function, it’s only a work of art. How could she say that, and what does this new perspective entail? In this case, her arguments would be: we have found other similar stones here, may be later, and they were in fact little sculptures. Or: the places where we found those objects where places of cult, with other relinquish and pieces of art, so that they should certainly be considered as works of art. Or: this civilization practiced no hunting but only agriculture, and so on. So our functional ascription was mistaken because we didn’t took into consideration something more than the mere piece of stone with its immediate elements (sharpness, weight, etc.) and we lent to people from the past some of our ways of life, and the usual inference rules that they somehow yield (here: “carved items are *prima facie* made to enhance survival”)

Thus the questions raised by pieces of art could be framed in the following way: here is an item with the same form as a given artefact, but designed in a wholly different intention. Why can’t we ascribe to this piece of art the same function as the artefact? The problem, here, is that we cannot see the users, and then infer their intentions—whether they are past humans, or strangers—so that the psychological inference rules that we use to infer intention from behavior are not proved valid. We have no test to decide which is the right ascription for an item, as long as we do not extend our inquiry to the largest context: not only, in my example, the stone and its capacities, but also the geographical context of its discovery, and the complete set of data concerning the
civilization within which it was made, has to be taken into consideration. I will argue in the following sections that this epistemological puzzle can appear illuminating in order to elucidate the ontological status of artefacts.

3. The ready-made and its consequences for the ontological status of artefacts

Let’s turn to a contemporary esthetical experience that is in many ways parallel to the last example of our archaeologist or ethnologist facing an unknown artefact which appears to be a piece of art: it is the artistic practice called “ready-made”, and initiated by Marcel Duchamp’s “Fountain” or “Bottle-Holder”. The well-known “Brillo box” by Andy Warhol exemplified this practice in the 1960s, and has been extremely stimulating for Danto’s or Goodman’s esthetics, as well as for George Dickie’s institutional theory of art. Here also, the same item as an artefact is a work of art. But the difference with the ethnological or archaeological cases is that this happens in our local culture, so that we can witness the user’s various behaviors vis-à-vis the two different and same items—the artefact and the piece of art. The advantage, moreover, of this example, is that it supposes our notion of art (whereas the last cases were exposed to difficult objections, concerning the fact that may be our idea of art is not the same in a past or distant culture).

So, in the case of the “Campbell soup” by Warhol, what happens? This is the extreme case of “quasi-exaptation”. The can did not only change its function, but had in fact no more function. Here, we can infer an intention, which is exactly: “see this can as a piece of art”; but the can is no more a functional artefact, or, as Goodman (1977) writes, it now functions as art.

There is a set of potentially explicit conditions that allows this extreme quasi exaptation, but none of them is necessary or sufficient. “The can is in a museum”; but the fire extinguisher too, and this last artefact is not a piece of art. “The can is extracted from its usual context”—but it is also the case of a trash can on the beach, and this can is not a piece of art. “Nobody eats its content”—sure, but there are plenty of Campbell soup cans that, in the end of times, will never have been consumed: so what is the difference? Intuitively, the difference is that there is a norm that “nobody should eat it”, instead of the fact that “nobody will eat it”. But how is this norm possible? This just rephrases our question in an-

11 Dickie (1969); see also Cohen (1972).
other way. Where does this norm come from? It has been settled by the new intention\(^2\). In fact, the intention\(^2\) of the ready-made deprives the item from all its functional attributes; it takes off its function.

Because I moved to the pragmatics of artefact use and talk, the normativity proper to artefacts came here to the fore. If intentions concerning artefacts are intentions\(^2\), intentions bearing on intentions, the first-degree intentions can be abnormal if precisely they don’t match the second-degree intention: if I wish to eat this Warhol’s Campbell soup in the MOMA, this intention will be abnormal because the intention\(^2\) of this item is precisely (unlike any soup can): “don’t eat this soup”. It is because the intentions constitutive of artefacts have to be pragmatically conceived in terms of intentions\(^2\) that there may be normativity inherent to the intentions of using artefacts in general, and then a possibility of shifting the norms of use like in the ready-made case. Note that becoming art through this normative shift somehow confers to the artefact the ontological status that Wiggins (2001) thought proper of the work of art as distinct from the ordinary artefact, which is the fact that its matter has to count as its principle of identity (this Campbell soup with its peculiar matter is a work of art, and not another can identical qua Campbell soup).\(^{12}\)

The question “how is the ready-made created?” can then be turned into this more descriptive and easier question: “How is this intention\(^2\) made manifest?” The answer is: we understand this intention\(^2\) because the general result of the set of conditions laid out just before (and of which any condition separately was neither sufficient nor necessary) is that the item becomes separated from any context of use. This latter concept is somehow fuzzy. But the general idea is the following: we have a set of items that can receive functions relatively to our intentions; yet the ready-made is no more one of them. Even if I am hungry, I won’t eat this soup can. But this deprivation concerns also the potentially quasi-exapted functions: if I want to block a door, I won’t do it with this soup can (but may be with another one), and so on. The notion of a context of use, is the idea of a set of objects related to each other, and correlative to potential intentions that are equally related together in a kind of system. Artefacts receive their functions within this system, because they can be related both to those intentions, and to other artefacts: in the case of the soup can, there is hunger, but also spoons, can-openers, etc. Instructions of use are meaningful only in this context, and that is why they can manifest an artefact’s function. They synthesize its systematic relationships with the

rest of the context of use, that is, with potential intentions and other artefacts.

Thereby, the experience of the ready-made is interesting because it shows the necessary relationship between the function of an artifact and its context of use. It is not only epistemologically that the function of an artefact has to be ascribed by inferring from its context of use, but, ontologically, that this function is a relative property of the artefact within the systematic concept of use. Because, if this function was a property of the particular item that we could infer by relating it to its context of use (so that it would just be epistemologically related to this context), then, separating it from its context of use would not deprive it from its function and make a piece of art out of it, because it would be easy for us to conceive it as related to this context, and then to continue to ascribe its function to it.

We are now entitled to unpack some consequences of this case study upon the previous descriptions.

First, the relationship between intention\textsuperscript{2} and functions of artefact is to be understood on the basis of the insertion of the artefact within the contexts of use. Generally speaking, the intention to use an artefact in such and such a way can sometimes yield, sometimes reveal, sometimes stem from its function, because it is shaped inside those same contexts of use within which functions of artefacts are themselves constituted. Suppose that I intend to write with this bird feather wet of ink; I can come to this intention, not only because there is the bird feather which enables me to write (it also enables me to put on some make-up), but because there is paper, because an alphabet exists, because I am literate, and because it is a usual practice to put someone’s ideas on a paper. This intention is not a pure mental event in my mind, not only a mental event related to the feather, not even a correlate of my acting in such and such a way with the feather, but an event within the set of possible uses and intentions available in my cultural context, i.e. in a systematic set of practices and items. And this set defines the potential functions of any artefact within it; that’s why my intention, then, can reveal the function of the artefact it aims at, or even confer to it its function. As Vermaas and Houkes (2003) pointed out, most authors tried to add some conditions of rationality to an intentionalist view of artefacts, given that a mere intention could yield very weird artefacts, but this faced some difficulties; however, the functionality of artefacts is a priori guaranteed by the same context of use which entitles intentions\textsuperscript{2} to be constituted, and this needs no other conditions on intentions.
Second, it is impossible to establish a general relationship between one’s intention and the function of an artefact, because this is not a two-term relationship, but a three-term relationship (one must take the context of use into account). Then, the apparent relationship between intention and function is the result of this complex three-term relationship, and depends on how the potential intentions and the functions are constituted within this systematic (complex) context of uses: since the ways of constituting it are manifold, such a relationship can vary. I think that this could account for the frequent problems met by those who want to elucidate the relationship of function and intentions of use, either by reducing the former to the latter, or by reducing the latter through a naturalistic account of the former. By focusing on a single artefact, they neglect the complex of uses in the frame of which the function of the artefact becomes constituted and simultaneously the intentions of use acquire any meaning. The various difficulties faced by an intentionalist accounts of functions of artefacts, so great that McLaughlin (2003) claims that there is no possible theory of function of the artefacts, can be superseded when one recognizes that the necessarily manifold manners of constituting the dual relationship between function and intention are abstracted from a triadic relationship.

Third, the structure we called intention², matching two intentions, is made possible only through such a systematic context which ensures, for any intention, that it can meet a corresponding downstream or upstream intention concerning a given item, because intentions are nested within social practices which are linked together. Concretely: designing a can opener is possible not only because there are cans, but also because a designer knows that other people will intend to open cans as much as her, which in turn is yielded by the fact that in our culture practical reasons (due to our way of life) enable us to wish that beverages were contained in cans.

Once again, art as an extreme case of the general idea of technè (more precisely here: the theoretical problem raised by the case of ready-mades) is an easy way to bring into focus the systematic connection within which artefacts acquire their functions: because to function as art is a case of extreme quasi-exaptation that extracts the artefact from its systematic context of use, hence depriving it from its functions. Artistic items have to be conceived as a border-case of the context of use, a case whose possibility is defined from within this system, but whose reality does not belong to it. In the end, the common root of the idea of technè relies on the inverted role played by the context of use in the cases of art and artefacts.
4. Ontology of artefacts and analogy with organisms: the holistic framework of functional ascriptions

The above results lead us to some consequences about the ontology of technical artefacts that I will expose by examining the usual comparison between biological and technical functions. In the framework of the etiological theory of functions, this parallel has often been addressed by asking about the status of intention in the case of technical artefacts, because a unified theory of functions, which treats in the same way technical and biological functions, had to show the eliminability, reducibility or non-necessity of intentions to define functions of artefacts. This was Millikan’s project, criticized by Vermaas and Houkes (2003) and taken up recently by Longy (2008a, b). As I wanted to establish, the idea of intention itself, in the case of artefacts, has been misconceived, and that implies some unfortunate consequences concerning the answer proposed. My point is that some major elements of the parallel between the biological and the artefact cases have been neglected and must be highlighted. Once those elements are understood and the parallel is strengthened, then we can grasp an idea of the ontological specificity of artefacts.

If the function of an artefact is not a property of this artefact alone but a relational property of an object within definite cultural system, then our consideration of artefacts comes closer to the biological cases of function ascriptions. In effect, biologists have always been sensitive to the context-dependency of any evolutionary relevant property, and to the environmental character of each functional ascription. Natural selection is a local process, such that for an organism, changes in other organisms with which it will never be in any interaction can nevertheless bring some fitness changes. So, if we assume that the traits of an organism (if not all, most of them) are shaped by natural selection, any explanation of their origin or maintenance takes into account the whole context of the organism, and not only those individual organisms it may have dealt with. It is a kind of systematic way of conceiving the organism within its environment (for a recent achievement of this way of thinking, see Laland, Odlin-Smee, Feldman, 2003). Briefly said, indeed: if fitness of an organism of a species depends not only on the ones it preys on, or its predators, but on the complex relationships between all the species in the ecosystem, fitness does not rely on the mere direct interactions between some organisms, but on a web of interactions into which the focal species is embedded (Solé and Goodwin, 2000)—and this exactly parallels the
shift we made from considering the function of an artifact through a
dual user-designer relation, towards embedding this function in its
context of use (the parallel being all the more compelling if we hold a
selected effect (Neander, 1991) or “etiological” theory of functions ac-
according to which the function of a trait is based on fitness value or
natural selection).

Moreover, this allows us to unmask another parallel. Biological
analyses always have in mind the specificity of the environment: func-
tional ascriptions are not easily exportable from one to another.13 Yet in
the case of artefacts, we spontaneously see only the artefact itself, its
effects, the user and the designer’s intention. If we look at its entangle-
ment with all other artefacts in the context of use, the high context-
dependency of functional ascriptions within artefacts will be empha-
sized, like in the biological case. For example, the same colored fur, in
some places can have the function of camouflaging the animal; in an-
other environment it can have the function of protecting him from the
cold. It is the same thing for, let us say, a painted feather: here it may be
part of a hat, there it may be a writing tool. In the case of artefacts, we
are less receptive to this context dependency of functional ascriptions
because we are familiar with the context of the artefacts we are study-
ing, so that the systematic connections in this context of use stay
implicit. Thus, more attention paid to what could be called the holistic
character of functional ascriptions for artefacts and their context depen-
dency can reduce the gap between the case of artefact functions and the
case of function in biology.

However, if we pay attention to the nature of this context depen-
dency, a major difference will appear. Let us consider a biological case:
the function of the polar bear’s fur. According to the etiological theory,
we shall say, it protects the bear from the cold, because we can establish
that this fur gave to its first bearers an advantage concerning survival
and reproduction, by keeping them warm. Finally, the function of a
biological trait is ascribed in a given environment by a reference to the
survival and reproduction of their bearers in this environment. There-
fore, in the definition of biological function in general, something is not
environment-dependent: the concept of surviving and reproducing itself,
whose instantiations, then, or ways of instantiating it, are indeed environ-
ment-dependant.

13 This point is the main motive underlying Walsh and Ariew (1996) version of the
etiological theory, that they precisely call “relational theory of function”.
If we now return to artefacts, and ask how their function is constituted within the context of use, the parallel now fails. Something corresponding to the context-independent value of “surviving” is lacking here, since we cannot find for functional ascriptions any reference pole that could be definable outside of the context of use. Our intuitive idea is that the artefact has to prove useful; but this idea of usefulness is defined within the context of use, relatively to the possible and available practices and artefacts. Usefulness in this culture where our archaeologist found the stone arrow is not usefulness in this other civilization where the same piece of stone is a kind of coin to pay and buy things. Maybe someone could contend that there is something in common between those two cases and call it utility, but this concept would be less empirically testable than the concepts of survival and reproduction. Moreover, some artefacts, albeit they are not artistic, have no utility at all even in their culture, and are designed not to have utility, like toys for adults\(^\text{14}\) (think of the Rubik’s cube). This implies that a homogenous and general concept of function could be easier to define in the case of biological functions than in the case of functions of artefacts, because those latter ascriptions are, in a sense, more “locally” determined. Here we face a difficulty for any unified theory of functions.

In other words, there is no equivalent of the measure of this general property of surviving, etc., which in biology is called fitness. Fitness, no matter how it is defined, has a necessary relationship to the number of offspring. However, artefacts have no offspring, no heredity, so at first blush they have no fitness. If we wish to define an equivalent of fitness for them, by a parallel with the biological notion of inclusive fitness (which links an entity with other entities that are not its direct descendants, see Lewens, 2004, ch. 7), there are still a few obstacles: first, it is constitutive of organisms that they should display both fitness and inclusive fitness; the fact that only an equivalent of the latter can be defined for artefacts makes a difference.\(^\text{15}\) Second, artefacts can be said to have copies or imitations, in order to allow an equivalent of inclusive fitness; however, the process of copying in the biological realm involves only one or two organisms, whereas the process of copying artefacts is highly nested in the context of use, i.e. in a web of practices and needs and other artefacts, so that is in the end

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\(^\text{14}\) I thank Pieter Vermaas for this suggestion.

\(^\text{15}\) See also Sober (1992), for an account of the difference between biological fitness and evaluating success of cultural entities; and Maynard-Smith (1988).
impossible to trace back this copying process to a finite number of artefacts.\textsuperscript{16}

**Conclusion**

A same regime of intention unifies work of art and artefact, although an artistic item might have no function. However, in both cases intentions that are involved in their nature have a dual structure, being \textit{intentions}\textsuperscript{2}, and are allowed because they are forged in a general context of use; reciprocally, functional ascriptions are always holistically elaborated in this context of use, albeit sometimes in an unnoticed manner. \textit{Intentions}\textsuperscript{2} are somehow normative because they belong to a kind of pragmatics of artefacts. To this extent, the borderline cases like ready-mades are possible, being a complete shift of an artefact’s functions that makes salient its previous embedding in a context of use.

This sketch of an analysis of the epistemology of functional ascriptions to artefacts led to ontological conclusions concerning those artefacts: though they are relying on intentions, and intentions are not easily assimilated to the model of selection,\textsuperscript{17} they nevertheless share the specific context-dependency of functional ascriptions to organisms, in a way often neglected by classical analyses because of the wide familiarity we have to the context of uses of our artefacts. That is why those cases of unfamiliarity provided by ethnology or paleoanthropology or by the practice of ready-mades are relevant for the ontology of artefacts. Finally, it is not because they result from intentions that artefacts differ from organisms concerning their functions, since intentions\textsuperscript{2} of artefacts are embedded in a context of use in the same way than biological functions are always environment-dependant.

Concerning the difference between artefacts’ and organisms’ functions, McLaughlin (2003) argued radically, that functions of artefacts doesn’t require more, in terms of metaphysical categories, than things and propositional attitudes, unlike organisms which would need self-reproducing entities among the metaphysical furniture of the world. The present analysis contests this conclusion: propositional attitudes are not enough to give rise to functions of artefacts in the world, since those functions

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\textsuperscript{16} This point concurs, by another way, with Lewens’ demonstration that the concept of replicator cannot be exported from the biological to the artefactual case (Lewens 2004).

\textsuperscript{17} For recent critiques see McLaughlin (2003) (selection doesn’t act directly on traits but goes through those bunches of traits that are organisms) and Lewens (2004) (selection needs variants and then is not a good model of conscious choice).
would also need a context of use, and, basically, the intersubjective relationships that allow intention\(^2\) to be formed. Hence, the ontology of artefacts is no less metaphysically demanding than the ontology of organisms\(^18\).

Philippe Huneman

References


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