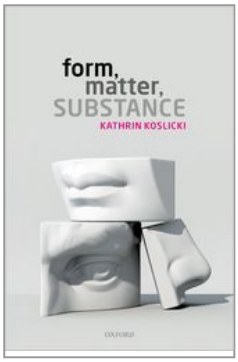

Form, Matter, Substance
Kathrin Koslicki

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Artifacts

Kathrin Koslicki

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Abstract and Keywords

This chapter continues the examination of the special features of artifacts by discussing their place within existing essentialist and anti-essentialist frameworks. It will be argued that prominent essentialist treatments of artifacts, such as those proposed by Amie Thomasson, Simon Evnine, and Lynne Rudder Baker, are susceptible to the concern that they exaggerate the creative and discriminating power of human intentions. Existing anti-essentialist frameworks, however, tend to trace the ascriptions of modal features to objects back to our semantic, inferential, or explanatory practices and are therefore also not particularly well suited to capture the primarily practical and action-based orientation of our engagement with the realm of artifacts. For the time being, the special case of artifacts eludes an entirely satisfactory treatment and must await the further development and refinement of suitable essentialist and anti-essentialist frameworks before the status of artifacts within a hylomorphic ontology can be fully resolved.

Keywords: artifacts, artifact kinds, natural things, natural kinds, essentialism, anti-essentialism, author-intention-based approaches, functions

8.1 Introductory Remarks

Artifacts have come up several times during the course of this study. Firstly, we considered artifacts in Chapter 3, in the context of discussing the assignment of forms to their proper ontological category. In this context, I brought up the account developed by Evnine (2016a) who proposes a version of origin-essentialism, according to which it is essential to an artifact that it is the product of a certain creative act (see Section 3.2). In this chapter, we will, among other

things, take up the question of whether this kind of origin-essentialism is sufficiently fine-grained to settle questions concerning the numerical identity of artifacts of the sort discussed in Section 3.4.3.

Secondly, artifacts became a subject of discussion again in Chapter 6, when the question arose as to whether forms are intrinsic to the matter–form compounds with which they are associated (see Section 6.4.4.4). In this connection, artifacts pose the following challenge: if an artifact is essentially the product of a creative act in which an agent successfully manifests his or her creative intentions, then it seems that the essences of artifacts include factors that are extrinsic to them, at least on the seemingly plausible assumption that an artifact's maker and the maker's intentions are extrinsic to the artifact that is produced in the relevant creative act. Given the close connection between forms and essences (see Section 3.4.2), this position would call into question the thesis that forms are intrinsic to the matter–form compounds with which they are associated, at least on the assumption that artifacts are accepted as genuine matter–form compounds.

Thirdly, I considered artifacts as a potential test case for the account of unity proposed in Chapter 7. In this connection, I noted that artifacts do not seem to be governed by laws or law-like connections in the same way or to the same extent as paradigmatic natural matter–form compounds, e.g., those belonging to physical, chemical, or biological kinds (see Section 7.5). Rather, in the case of artifacts, the principles governing the interactions among their material components seem to be of a normative conditional nature and require us to make reference to the mental states of agents who intend to make use of the artifacts in question in order to engage in certain types of actions.

More generally, given their apparent mind dependence, artifacts pose challenges to any realist account of the metaphysics of concrete particular objects, whether hylomorphic or not. Structure-based hylomorphic accounts, in particular, must **(p.217)** wrestle with the question of whether artifacts should be assigned the same status within their ontologies as paradigmatic natural matter–form compounds, given that artifacts appear to be just as highly structured as the members of paradigmatic natural kinds. In what follows, I will not attempt to develop conclusive answers to all of these important questions concerning the status of artifacts in a realist hylomorphic ontology, since such an endeavor would require a book-length treatment in its own right. Rather, I will point to what I take to be interesting directions for future research which call for a more detailed discussion than what I can provide in the present context.

In particular, in what follows, we will consider several prominent essentialist accounts of artifacts, all of which trace the essences of artifacts, directly or indirectly, to the intentions of an artifact's original author (e.g., its inventor, maker, producer, or designer). We will discover that these "author-intention-

based” accounts are subject to the concern that, when stated in its most general form, human creative intentions are not nearly as powerful and discriminating as proponents of these accounts make them out to be. This result might seem to indicate that artifacts might be more naturally accommodated within the confines of an anti-essentialist account of some sort: in many cases, after all, artifacts are created by human beings to serve human interests. Perhaps surprisingly, however, we will find that existing anti-essentialist frameworks are also, in their current formulations, not able to account for the special characteristics of artifacts as straightforwardly as we might have expected them to do so. For these approaches tend to trace our attribution of modal features to objects to our semantic, inferential, or explanatory practices; but our engagement with the realm of artifacts seems to be primarily practical and action-based. Thus, as it stands, the domain of artifacts leaves us with some open questions which call for the further development and refinement of essentialist and anti-essentialist frameworks alike.

8.2 Artifact Kinds and Natural Kinds

There is no uncontroversial way of distinguishing between natural things and artifacts, or between natural kinds and artifact kinds. Bird and Tobin (2012) characterize a natural kind as “a grouping that reflects the structure of the natural world rather than the interests and actions of human beings.” Since human beings are themselves part of nature, however, it is at least not immediately obvious why divisions of things into kinds which reflect “the interests and actions of human beings” could not themselves also yield divisions of things into kinds which reflect “the structure of the natural world.” Alternatively, a kind may also be construed as natural, not because it is found in nature, but because it presents us with a grouping of particular items into a category or taxonomic classification that is, in some sense, not arbitrary, heterogeneous, or gerrymandered.[1]

(p.218) It is sometimes said that artifacts (or artifact kinds) can be distinguished from natural things (or natural kinds) by considering the reasons or processes that are responsible for bringing them into existence. Thus, according to Hilpinen (2011), “[a]n artifact may be defined as an object that has been intentionally made or produced for a certain purpose.” Although Hilpinen’s characterization of artifacts no doubt initially appears very plausible, any attempt to delineate artifacts and natural things on the basis of the sorts of considerations suggested by Hilpinen is immediately confronted with a wide range of tricky cases.[2]

(1) *Artificially Produced Members of Natural Kinds*. Consider, for example, seedless grapes or synthetically produced chemical compounds (i.e., chemical compounds which are created and perhaps can only be created in the lab). Cases such as these seem to present us with objects which we might otherwise assign

to natural (e.g., biological or chemical) kinds and yet they appear to be "intentionally made or produced for a certain purpose" by human beings.

Domestic animals, such as dogs, furthermore raise the question of what sorts of processes should count as instances of intentionally "making" or "producing" an object for a certain purpose. For while the mechanisms by which dogs are "produced" from other dogs (viz., by sexual reproduction) appear to be straightforwardly natural, we must also note that dogs would not have evolved from wolves in the first place, if it had not been for human interference. At the same time, we would seem to be casting our net too widely, if objects were counted as artifacts on the basis of whether they would not exist, were it not for our contribution. At this point, almost everything in our environment in some way bears the marks of intentional purpose-driven human interference, and this broader method of classification would thus, apparently incorrectly, classify many objects as artifacts which would otherwise be assigned to natural (e.g., physical, chemical, or biological) kinds.

(2) *"Ready-Mades" and "Found Objects."* The latter question of what conditions a process must satisfy in order for it to qualify as an intentional "making" or "producing" is also brought to the fore, though in a different way, by cases involving so-called "Ready-Mades" or "Found Objects." Did Marcel Duchamp, for example, succeed in creating a new artifact, viz., a sculpture called *Fountain*, from a previously existing artifact, viz., a urinal? Or is it possible to create a new artifact simply by "converting" a piece of driftwood into a bench? If so, then apparently a process can qualify as an intentional making or producing, even if no physical work is required on the part of the agent responsible for the apparent creation of a new artifact and the underlying material from which the new artifact is apparently made (viz., the urinal or the piece of driftwood) need not undergo any intrinsic change.

(p.219) (3) *Byproducts, Residue, and Other Unintended Outcomes*. The intentional production of an object for a certain purpose can sometimes result in unintended byproducts or residue, e.g., pollution, sawdust, or scrap metal. In addition, an entity can also apparently come about as the result of unintentional human activity (e.g., a drawing that is the result of mere "doodling") or as an unintended consequence of intentional human activity, but not as the direct byproduct or residue of a process in which an object is "intentionally made or produced for a certain purpose." For example, a village may be the unintended result of a collection of houses that are put up in close vicinity to one another; or a trail may be the unintended result of many walkers reaching their destination via the same route. Should these unintended outcomes of human activity themselves be classified as artifacts? If they are so classified, then apparently artifacts need not always themselves be the direct target of an intentional purpose-driven creative activity.

(4) *Products of Non-human Intentional Activity*. Some objects (e.g., beaver dams, ant hills, spider webs, or birds' nests) appear to be "intentionally made or produced for a certain purpose," but the agents responsible for their production are *non-human* animals. If these objects are included in the category of artifacts as well, then the ability to produce artifacts is not confined to our own species. Given this broader categorization, one wonders how cognitively sophisticated an agent must be in order to be able to partake in an intentional purpose-driven process that results in the creation of an artifact.

(5) *Artworks*. According to Hilpinen's characterization, artifacts are objects which are "intentionally made or produced *for a certain purpose*." At least in some cases, the purpose for which an artifact is intentionally made or produced appears to be intimately connected to the object's intended function or use. Thus, it is natural to think that screwdrivers are, in a typical case, intentionally made or produced for the purpose of creating something which can be used to tighten or loosen screws, given that their intended function or use is to tighten or loosen screws. Although artworks are also often regarded as a special class of artifacts, it is at least not obvious that artworks have an intended function or use or, if they do, what their intended function or use would be. The case of artworks thus puts some pressure on the characterization of artifacts as the products of an intentional *purpose-driven* creative activity.

In the preceding paragraphs, we have encountered cases which pose various sorts of challenges to Hilpinen's intuitively plausible characterization of artifacts as objects that are "intentionally made or produced for a certain purpose." (1) In some cases (e.g., seedless grapes, synthetically produced chemical compounds, or domestic animals), it appears to be possible that objects are "intentionally made or produced for a certain purpose," even though they appear to be members of natural (e.g., chemical or biological) kinds. (2) In some cases (e.g., "Ready-Mades" or "Found Objects"), the apparent creative process in question hardly seems to qualify as a "making" or "producing" at all, given that the agent need not physically work on, or intrinsically change, the underlying material from which the new artifact is apparently created. (3) In some **(p.220)** cases, human activity can leave in its wake various unintended byproducts, residue, or other outcomes (e.g., pollution, sawdust, or scrap metal; drawings that are the result of mere "doodling"; or unintentionally created villages or trails) which, if they are themselves regarded as artifacts, do not straightforwardly fit the characterization of being "intentionally made or produced for a certain purpose." (4) In some cases (e.g., beaver dams, ant hills, spider webs, or birds' nests), objects can apparently be the products of intentional purpose-driven activity carried out by agents whose degree of cognitive sophistication is quite far removed from that manifested by humans. (5) In some cases (e.g., artworks), objects which do not obviously have an intended function or use raise the question of how, or whether, the intentional human activity involved in their production can nevertheless be regarded as purpose-driven. These five groups of

cases present us with only a small selection of the many difficult cases confronting any attempt to offer a general characterization of what it takes to be an artifact. In what follows, we shall encounter many more troublesome phenomena which pose additional challenges to attempts at delineating artifacts from natural things by means of considerations such as those suggested by Hilpinen.

8.3 Artifact-Essences

8.3.1 Maker's Intentions

According to the account of artifacts developed by Amie Thomasson (see Thomasson (2003a, 2003b, 2007, 2009)), it is essential to artifacts that they are the *intended* products of *human* activity. As we noted in Section 8.2, human activity can also result in various unintended byproducts, residue, or other outcomes (e.g., pollution, sawdust, or scrap metal; drawings that are the result of mere "doodling"; or unintentionally created villages or trails). Given Thomasson's use of the term "artifact," these *unintended* products of human activity do not count as artifacts.[3] Thomasson also restricts the application of the term to the intended products of *human* activity (as opposed to, say, activities engaged in by *non-human* animals), so that, for example, beaver dams, ant hills, spider webs, birds' nests, and the like, are also not classified by her account as artifacts, even if such items might plausibly be regarded as the intended products of intentional non-human activity.

(p.221) In Thomasson's view, intentional human activity is not only *causally* responsible for the production of artifacts, but *constitutive* of the nature or essence of artifacts.[4] Since artifacts, for Thomasson, are therefore mind-dependent, they differ in this respect ontologically from the members of natural kinds whose existence and essence she regards as not constitutively dependent on intentional human activity. Nevertheless, despite the mind-dependence of artifacts, Thomasson cautions us not to conclude that these entities are for that reason mere mental constructs or any less real than members of natural kinds. Correspondingly, she stresses that, in our discourse about artifacts, we are not just engaged in pretense or make-believe.

More specifically, an artifact of kind K, according to Thomasson, is the product of a largely successful intention to create something of kind K (see Thomasson (2003b), pp. 592–602). A maker has the relevant intention (viz., a largely successful intention to create something of kind K) if and only if she has a substantive concept of the nature of Ks which largely matches that of prior makers of Ks (if any) and she intends to realize that concept by imposing K-relevant features. The K-relevant features in question can be functional, structural, historical, aesthetic, or of various other sorts or combinations. The parenthetical qualification, "(if any)," is added to accommodate scenarios in which an inventor produces a prototype of a new artifact kind K. In such cases, the artifact's maker cannot intend her own substantive concept of what she

takes herself to be producing to be largely continuous with the intentions of previous makers of instances of the same artifact kind, since (as far as she knows) there are no previous instances of kind K. When a maker invents a new kind of artifact, the features that are relevant to an item's membership in the artifact kind in question are stipulatively determined by the concept guiding the inventor's creative activity. In cases in which later makers produce subsequent instances of an already-established artifact kind K, the intentions governing their creative activities must largely, though not exactly, match those of previous makers. Since an inventor's concept and a later maker's concept of what they take themselves to be producing need not completely coincide, Thomasson's account allows for a certain degree of vagueness and malleability in our artifact concepts.

Given Thomasson's account, the familiar scientifically realist Kripke–Putnam approach to natural kinds and natural kind terms does not straightforwardly transfer to the realm of artifact kinds and artifactual kind terms. Among the main ontological, epistemic, and semantic contrasts Thomasson draws between the domain of the natural and the domain of the artifactual are the following. Ontologically speaking, while the members of natural kinds are not generally taken to be existentially or essentially **(p.222)** dependent on intentional human activity, Thomasson, as noted earlier, does regard the members of artifact kinds as being mind-dependent in a particular way, viz., by being essentially the intended products of human activity. Epistemically speaking, while Thomasson allows that there are some objective facts about artifacts (hence opening up the possibility for certain kinds of error and ignorance), she also argues that the artifact's creator occupies an epistemically privileged position with respect to the question of what (if anything) she creates: since, for Thomasson, the creator's intentions stipulatively determine which specific and general features are relevant to membership in the kind in question, these elements are therefore not open to revision and insulate the artifact's creator from the possibility of massive error or ignorance concerning the product of her intentional activity. Finally, semantically speaking, Thomasson proposes that a purely causal theory of reference is not acceptable for artifact terms. Since the artifact's creator grounds the reference of an artifact term, the features which are stipulatively specified by way of the creator's intentions as being relevant to an object's membership in the artifact kind at issue are therefore conceptually tied to the meaning and use of the artifact term in question. Hence, the proper semantics for artifact terms, in Thomasson's view, must be at least in part descriptive.[5]

8.3.2 Creative Acts

The account of artifacts defended by Simon Evnine (see especially Evnine (2016a)) appears, on the surface, to be quite similar to Thomasson's: both regard artifacts as not just causally, but constitutively, mind-dependent entities whose essences must be understood at least in part in terms of the creative intentions of their makers. Artifacts, as Evnine likes to say, are the results of

minds impressing themselves on matter with certain creative intentions (see, e.g., Evnine (2016a), p. 69). For Evnine, however, a maker's creative intentions enter into an artifact-essence only indirectly through the act of creation which (if successful) produces the artifact in question: it is the act of creation, in Evnine's view, which directly figures in the essence of the resulting artifact; the presence of the maker's intentions in the essence of an artifact, in turn, is mediated by their presence in the essence of the corresponding act of creation.[6]

(p.223) Evnine thus endorses a certain kind of essentiality of origins thesis for artifacts, since he takes these entities to be essentially the products of certain creative acts performed by agents. Unlike Kripke, however, Evnine views the *act* of creation which produces the artifact, rather than the original *matter* from which an artifact is fashioned, as essential to the resulting artifact. Acts of creation, and actions in general, according to Evnine, are themselves artifacts: they belong to the category of artifactual events, rather than to the category of artifactual objects, which is reserved for the intended products of successful acts of creation. Like artifactual objects, Evnine holds that actions are themselves "made" by agents out of some underlying matter; but the matter underlying an action is either other actions or bodily movements (e.g., an agent "makes" an action of switch-flipping out of a certain deliberate movement of her finger). The essence of an action, so Evnine argues, should be construed as including the agent who performs the action, the intention with which the agent performs the action, the kind to which the action belongs (when the action is singled out under a canonical description as being performed intentionally), as well as the action's matter, i.e., the underlying events (viz., bodily movements or other actions) which materially compose the action and by means of which the agent performs the action in question. In contrast, the time at which an act of creation occurs or the matter of the artifact which is produced in a successful act of creation, in Evnine's view, are not essential to an act of creation. Thus, the very same act of creation could have occurred earlier or later than it did; and the very same artifactual object could have been created, in the same act of creation, from different matter. But the very same act of creation could not have been performed by a different agent, with different intentions, or by performing a distinct series of underlying bodily movements or actions; nor could the very same act of creation have belonged to a different canonical action-kind.

Depending on the case at hand, an artifactual object, according to Evnine's account, can inherit further essential features (e.g., membership in a kind or a kind-associated function) from the essence of the act of creation which produces it, by way of the maker's intentions. Thus, in cases in which an agent intends to produce a member of an already existing artifact kind K, she must be guided by a concept of what kind of artifact she takes herself to be producing. In these cases, the artifact kind in question makes its way into the essence of the resulting artifact through the creative intention of the agent who produces it and the resulting artifact essentially belongs to kind K. Moreover, an artifact which

belongs to a kind with a kind-associated function also has the relevant function essentially. In Evnine's view, however, it is compatible with an artifact having a kind-associated function essentially that the artifact in question is not actually able to carry out the function: for a broken K, for Evnine, is still a K. **(p.224)** In addition, it is also compatible with an artifact's having a kind-associated function essentially that the agent who produces the artifact does not actually intend to produce something which will be used to carry out the kind-associated function: for the agent may instead intend to produce an artifact with an idiosyncratic function (e.g., a show exemplar). Nevertheless, since (in order for the corresponding act of creation to be successful) the agent must intend to produce something of kind K, the resulting artifact will have the kind-associated function essentially, simply by virtue of being essentially a member of kind K.

Further exceptions to the generalizations mentioned here are required in order to account for cases in which an agent intends to produce a prototype as well as cases in which an artifact does not obviously have a (kind-associated or idiosyncratic) function at all. Thus, in cases of prototype production, for example, an agent does not intend to produce something which belongs to an already existing artifact kind K, since (as far as she knows) the relevant kind does not (yet) exist. Further, Evnine allows that some artifacts (e.g., artworks) may not inherit a function from their essential membership in a certain kind or from a certain idiosyncratic use their makers have in mind for them. Thus, even though Evnine in general takes artifacts to inherit their essential features from the intentions of the agents who produce them, by way of the relevant act of creation, his account does not legislate a uniform conception of artifact-essences according to which all artifacts are essentially members of an already existing kind or essentially have a certain (kind-associated or idiosyncratic) function. Most minimally, then, an artifact, for Evnine, is just essentially the product of a certain act of creation in which an agent successfully exercises her intention to create a certain thing by working in an appropriate fashion on some suitable matter.

As Evnine (2013) describes for the controversial case of "Ready-Mades" (e.g., Marcel Duchamp's *Fountain*), very little physical work may in fact be required on the part of an agent in order for her to count as having successfully exercised her intention to create a certain thing by working in an appropriate fashion on some suitable matter. Evnine's position concerning "Ready-Mades" is that a metaphysical account of artifacts and artworks should not rule out the possibility that an artist might succeed in creating a new artwork (e.g., a sculpture) merely by "selecting" an existing artifact (e.g., a urinal) for an exhibition. A theory which excludes such a possibility, in Evnine's view, suffers from the disadvantage that it is unable to explain why artists might be interested in producing "Ready-Mades" in the first place or why audiences find them so provocative (see Evnine (2013), p. 423).

8.3.3 Functions

According to the account of artifacts developed by Lynne Rudder Baker (see especially Baker (2004), (2007)), artifacts have a certain “proper function” essentially. The proper function of an artifact is the purpose or use intended for the artifact by its “author(s),” viz., the artifact’s designer(s) and/or producer(s). (Depending on the case, either a single author or multiple authors may be responsible for the design and/or production **(p.225)** of an artifact.) Baker’s emphasis on functions certainly appears to distinguish her account from the two approaches outlined earlier, since both Thomasson and Evnine make room for the possibility that entities (e.g., artworks) may count as artifacts even if they do not obviously have (kind-associated or idiosyncratic) functions. Once we take into consideration, however, that Baker uses the term “artifact,” in a more restricted sense than our previous two authors, to refer to what she calls “technical artifacts,” the differences between Baker’s account and those defended by Thomasson and Evnine turn out to be less pronounced than they might at first appear. A “technical artifact,” for Baker, is an artifact that is designed and/or produced to attain a certain *practical* goal; artworks are explicitly excluded from the scope of Baker’s account. In addition, Baker agrees with Thomasson and Evnine in assigning a central role to the authors’ intentions in determining an artifact’s essence, viz., its proper function. Like Thomasson and Evnine, Baker views artifacts as in no way ontologically deficient or any less real than the members of natural kinds, despite their mind-dependence (or “intention-dependence,” as Baker prefers to say).

Baker conceives of artifact-functions in a *normative* way, as being conceptually tied to the notion of malfunction: an artifact’s proper function is the function it is *supposed to* carry out, assuming that the artifact operates in the way intended by its authors. It is compatible with an artifact having its proper function essentially, in Baker’s view, that the artifact is not in fact able to carry out its proper function. But Baker is careful to note that not all cases in which an artifact fails to operate as intended by its authors should be accepted as cases in which the artifact malfunctions. Thus, a case in which an artifact fails to carry out its proper function counts as a malfunction, in Baker’s view, just in case, firstly, it is physically possible to perform the artifact’s proper function and, secondly, the artifact is being operated by a competent user and in conditions in which the artifact is intended to be operated. The first condition is violated, for example, by a perpetual motion machine or by an amulet whose intended function is to ward off evil spirits. The second condition fails to obtain, for example, when a car stops running because it is out of gas or when a machine fails to operate as intended because the person operating it lacks the proper training.

Other authors, who have also emphasized the centrality of functions in their accounts of artifacts, employ a notion of function that is quite different from Baker’s. For example, Crawford Elder, following the work of Ruth Millikan in the

philosophy of biology (see, e.g., Millikan (1984)), conceives of artifact-functions in a causal-historical way. Thus, in Elder's view, the members of artifact-kinds (and so-called "copied kinds" more generally) are "produced by a process or mechanism which copies them from previous members similarly shaped, and does so as a causal consequence of performances, by those previous members, of certain functions—productions by them of certain effects" (Elder (2007), p. 38). Thus, earlier members of the kind, *screwdriver*, for instance, produced the effect of tightening and loosening screws; and the fact that later members of the same kind were copied from earlier members is a causal consequence of the fact that earlier members of the kind, *screwdriver*, produced the effect of tightening **(p.226)** and loosening screws. In this case, the tightening and loosening of screws are identified by Elder as the "proper function" associated with members of the kind, *screwdriver*. More generally, when this causal-historical connection obtains between the production of effects by earlier and later members of a copied kind, Elder identifies the production of the effect in question as the proper function associated with members of the copied kind. Elder takes his account of artifacts to have a distinct advantage over its competitors in that it allows, in his view, for a mind-*in*dependent conception of the reality of artifacts. Human beings and their mental states, for Elder, are only *causally*, but not *constitutively*, responsible for the production of artifacts; and hence author-intentions in particular do not figure either directly or indirectly into artifact-essences.[7]

8.4 Challenges for Author-Intention-Based Accounts of Artifact-Essences

So far, we have encountered three different styles of accounts of artifact-essences. According to the first, associated with Amie Thomasson, an artifact of kind K is essentially the product of a largely successful intention on the part of a maker to create something of kind K. According to the second account, associated with Simon Evnine, an artifact of kind K is essentially the product of a certain act of creation performed by an agent who intends to create something of kind K. According to the third account, an artifact of kind K essentially has a certain proper function associated with objects of kind K. This third account can be developed in different ways, depending on whether the operative notion of function is understood, e.g., as determined by author-intentions (as on Baker's account) or as resulting from a causal-historical relationship of some sort (as on Elder's account).

Even though Thomasson's, Evnine's, and Baker's accounts all differ from each other in important and interesting ways, all three accounts agree in tracing the essence of an artifact either directly or indirectly back to the intentions of those agents (inventors, makers, authors, designers, or producers) who are primarily responsible for the creation of the artifact. Despite their differences, I will in what follows refer to all three accounts with the short-hand, "author-intention-

based accounts." Author-intention-based accounts are open to serious challenges, among them the following.[8]

(p.227) 8.4.1 User-Intentions

It appears to be possible, under certain circumstances, for the intentions of the later users of an artifact to override the original author-intentions in determining what features are relevant to an artifact's membership in a certain kind K. Thus, Kornblith (2007), for example, remarks:

> … [T]he person who first made carabiners may have had quite a different intention in making them than the users do in using them, and if the maker, now long gone, is the only one who ever had that intention, and all of the users have a different intention, then arguably the intentions which are connected to making the kind what it is are probably those of the users rather than the maker. […] The maker could not insist, "I know what these things are; after all, I made them", since the term is part of a public language which the maker cannot constrain through a sheer act of will.
>
> (Kornblith (2007), p. 145)

In the scenario Kornblith imagines, artifacts of the kind, *carabiner*, were originally intended to have a certain function, e.g., F, by their author; but later users came to associate members of the kind in question with a different function, e.g., F'. Moreover, Kornblith supposes that only the original author, at a time in the distant past, ever thought of carabiners as having the function, F, while everyone else who has since used carabiners thought of them as having the function, F'. Under these circumstances, Kornblith suggests, it is plausible to hold that the intentions of carabiner-users may succeed in overriding the intentions of the original author in determining which features are relevant for an item's membership in the kind in question.

The possibility that it is, under certain circumstances, possible for user-intentions to override author-intentions can be further illustrated by considering the following case. Suppose that Alexander Graham Bell, the inventor of the telephone, initially intended his new device to be used as an aid for the hearing-impaired, while later users came to think of the telephone as a certain kind of long-distance communication device which allows two or more users (whether they are hearing-impaired or not) to carry on a conversation even when they are far apart.[9] Given author-intention-based accounts of artifact-essences, assuming that Alexander Graham Bell in fact intended the device he invented to have a certain function, viz., to aid the hearing-impaired, and assuming that there is no obvious reason to think that Bell's original author-intentions misfired during the production of the first prototype, then the device Bell invented *is* in fact a hearing-aid (and essentially so); and the same applies to every subsequent device which is successfully produced with the intention of being of the same

type as **(p.228)** the device Bell invented.[10] Proponents of this view are committed to holding that the intentions of later users cannot override Bell's original author-intentions, according to which the device he invented is a kind of hearing-aid, and lead to a reclassification of the telephone as a certain kind of long-distance communication device. But the scenario under consideration suggests that it is in fact possible, under certain circumstances, for the intentions of later users to override the intentions of the original author as to how the device he or she has invented, designed, or produced is to be used.

The following three types of responses come to mind when faced with scenarios in which user-intentions appear to be able to override original author-intentions in determining the features that are relevant to an artifact's membership in a certain kind. According to the first response, when the scenario in question is appropriately redescribed, the original author-intentions turn out to be sufficiently *general* to accommodate the apparent shift in the function ascribed to the artifact kind in question. Following this line of thought, we might attribute to Bell only the intention that his new device be used to convert sound into electronic signals, leaving open whether these electronic signals are then amplified (as in the case of hearing-aids) or transmitted over long distances (as in the case of long-distance communication devices). But this redescription seems to mischaracterize the more specific original author-intention we attributed to Bell in the scenario in question, according to which Bell in fact intended his invention to be used as a device which, upon converting sound into electronic signals, amplifies these electronic signals in such a way as to aid the hearing-impaired, with no special focus on the transmission of these electronic signals over long distances.

According to the second response, we are to assume that, in cases of apparent conflict, the function ascribed to an artifact by later users merely *supplements* (but does not replace) the function ascribed to the artifact in question by the original author. Thus, following this response, the function associated with the kind, *telephone*, initially specifies that these devices are to be used as an aid for the hearing-impaired and is later broadened to include their use as long-distance communication devices. But this second response has the counterintuitive consequence that all those devices which are in fact classified as hearing-aids (i.e., devices which, upon converting sound into electronic signals, only amplify but do not transmit these electronic signals over long distances) would then be included in the kind, *telephone*, and therefore classified as **(p.229)** being of the same type as the device Bell invented. In fact, given the second response, we would be forced to conclude that these latter devices (i.e., devices which we now classify as hearing-aids) reflect Bell's original author-intentions more accurately than the devices we now classify as telephones (i.e., devices which, upon converting sound into electronic signals, transmit these signals over long distances).

According to the third response to the scenario considered earlier, we are to retain the idea that the features relevant to an artifact's membership in a kind are in fact determined by the intentions of agents, but allow that this responsibility in some cases falls to the users of an artifact rather than to its original author. Endorsing this third response is tantamount to giving up on an exclusively author-intention-based account of artifact-essences. In addition, the third response also offers no general recipe as to how to adjudicate, in cases of conflict, between the intentions of the original author and the intentions of later users as to which features are relevant to an artifact's membership in a given kind. Moreover, an account of artifact-essence which exclusively assigns the responsibilities of determining kind-relevant features to the users of an artifact runs into difficulties in cases in which a new type of artifact is invented, designed, or produced by an author but either never develops a following among users or does so only after a certain period of time. For an exclusively user-intention-based account, in that case, would lack the resources to attribute essences or kind-relevant features to artifacts for which appropriate user-intentions are not available.[11]

In sum, the considerations presented in this section seem to suggest that, under certain circumstances, user-intentions can indeed override original author-intentions in determining an artifact's kind-relevant features. As it stands, such a possibility is incompatible with author-intention-based accounts of artifact-essences, since these approaches maintain that the essence of an artifact is, directly or indirectly, determined by the intentions of an artifact's original author, assuming that the author successfully exercises her intention to create a certain thing by working in an appropriate fashion on some suitable matter. I discussed three responses to the challenge presented here. All three responses, however, were found to lead to unwelcome results and should therefore be resisted. In Section 8.4.4, I will briefly return to the challenge posed in this section and offer my own thoughts on how best to diagnose scenarios in which **(p.230)** user-intentions appear to be able to override author-intentions in determining an artifact's kind-relevant features.

8.4.2 Easy Ontology

Author-intention-based accounts of artifact-essences seem to be susceptible to the worry that it might just be too easy to create new artifacts and new artifact kinds, given their perspective.[12] For example, no matter how hard I try, it appears that I simply cannot create a thermometer out of a pen merely by thinking certain thoughts or by uttering certain words. Unless the pen undergoes a fairly radical transformation in the process of my attempt to make a thermometer out of a pen, my would-be creative intention will be thwarted, given that a pen (unless dramatically altered) just does not have what it takes to detect and indicate changes in temperature, regardless of what mental or linguistic attitude I or anyone else adopts towards the pen. Thus, proponents of author-intention-based accounts will presumably want to set *some* limits on the

circumstances in which an agent's adoption of a certain mental or linguistic attitude towards some pre-existing objects by itself is sufficient for the creation of a new artifact. Such approaches therefore owe us an account of how to delineate circumstances in which an author succeeds in exercising her creative intentions from circumstances in which an author's would-be creative intentions misfire in some way.

When considering the prospects for proponents of author-intention-based accounts in formulating such success conditions, we should keep in mind that these approaches are quite liberal in many respects when it comes to an agent's ability to create new artifacts. To illustrate, recall the following three types of possibilities which may arise according to an author-intention-based model of artifact production. Firstly, proponents of author-intention-based accounts allow for the possibility that, in a successful case of prototype production, an agent can under the right circumstances succeed in producing a new artifact which does not belong to an already-established artifact kind. In such cases, an agent manages to bring into existence not only a particular exemplar, but also (where successful) a whole new artifact kind. Secondly, in cases of malfunction, an item may count as belonging to an artifact kind with a kind-associated function, even if the particular exemplar under consideration is not able to carry out the function associated with the artifact kind to which it belongs. (Recall Evnine's slogan: "A broken K is still a K.") Thirdly, in cases involving "Ready-Mades" or "Found Objects," author-intention-based accounts make room for the possibility that an agent **(p.231)** may succeed in exercising her creative intentions to produce a certain artifact from some underlying matter, even when the agent contributes no physical work and the underlying matter does not undergo any intrinsic change during the process of "production." In cases involving "Found Objects," the agent appears to be simply lucky in that a pre-existing object (e.g., a piece of driftwood) is already in the right shape intrinsically to serve as the matter for the alleged newly created artifact (e.g., a bench) without requiring any additional physical work on the part of the agent. Alternatively, the alleged newly created artifact may also belong to an artifact kind (e.g., the kind, "Ready-Mades") whose members (perhaps not unlike marriages or promises) can apparently be created in suitable contexts simply by uttering certain words or thinking certain thoughts, or by inducing changes with respect to the relational properties exhibited by the pre-existing objects in question.[13,14]

Given these three possibilities, we can now imagine several different scenarios which appear to spell trouble for author-intention-based accounts. The first type of scenario involves the apparent creation of a new artifact belonging to an already-existing artifact kind; the second type of scenario involves the apparent creation of a new artifact which (if successful) would constitute a prototype of a not-yet-existing artifact kind and which (if successful) would therefore bring with it the creation of a whole new artifact kind. In both types of scenarios, the newly created artifact (given the possibility of malfunction) need not actually be

able to carry out the function the agent has in mind for the artifact she intends to create. Moreover, in both types of scenarios (given the possibility of “Ready-Mades” or “Found Objects”), the agent need not physically work on, or intrinsically alter, the pre-existing objects which (assuming that the act of creation is successful) will serve as the underlying matter for the newly created artifact. Instead, the agent may, in the right circumstances, create a new artifact simply by thinking **(p.232)** certain thoughts or speaking certain words, or by relationally (but not intrinsically) altering the pre-existing objects which (in a successful case of artifact-production) will serve as the underlying matter for the newly created artifact.

Beginning with the first type of scenario, we may ask what resources proponents of author-intention-based accounts have at their disposal to impose constraints on an agent’s ability to exercise her would-be creative intentions successfully when she intends to create a new member of an already-existing artifact kind. Suppose, for example, an agent intends to “convert” a pen into a thermometer: under what circumstances, we may ask, does she count as having succeeded or failed to succeed in creating a new artifact (viz., a thermometer) from an already-existing artifact (viz., a pen)? Given the possibility of “Ready-Mades” or “Found Objects,” the agent need not physically work on, or intrinsically alter, the pen in order to “convert” it into a thermometer. Moreover, given the possibility of malfunction, the agent need not produce a device which is able to carry out the function she intends the outcome of her would-be creative intentions to perform (e.g., to measure the temperature in a certain environment). No doubt, proponents of author-intention-based accounts would balk at the idea that, under the circumstances just described, a new artifact, viz., a broken or malfunctioning thermometer, has in fact been created from a pre-existing artifact, viz., a pen. Given the possibilities outlined earlier, however, it is unclear what is to prevent us from concluding that, in the defective case just imagined, a new member has been added to an already-existing artifact kind.

Secondly, we may ask what sorts of constraints may be imposed on scenarios of the second type in which an agent intends to produce a prototype of a not-yet-established artifact kind, and thereby (where successful) also simultaneously creates a whole new artifact kind. The ability to impose such constraints is particularly important from the point of view of proponents of author-intention-based accounts who (like Evnine and Baker) see their own approach as less ontologically permissive and more substantively realist than Thomasson’s neo-Carnapian “ontological minimalism” or “easy ontology” (see, e.g., Thomasson (2015)). When discussing this concern, Evnine remarks:

> Chairs exist [according to Thomasson] when people work with certain intentions on appropriate matter not, as I have it, because those people are exercising some creative power to bring chairs into existence thereby, but simply because the conditions contained in the concept obtain. If we define

> a concept *not-thair* in such a way that it applies just when a person ignores some potential chair-matter and does nothing to it, then we can say that not-thairs exist (and have always existed) in the same way, under conditions that clearly are not genuinely creative in the first-order sense. Thus the agreement between ontological minimalism and my own view over CH [a principle stating the existence conditions for chairs], and other principles like it pertaining to other artifactual concepts, is a coincidental convergence between two theories that are quite different in spirit.
>
> (Evnine (2016a), p. 117)[15]

(p.233) The disagreement between Evnine and Thomasson, for the particular case of artifacts, thus comes down to Evnine's more restrictive conception of what it takes for an agent to exercise, or fail to exercise, a genuinely "creative power." But the very question before us is precisely what distinguishes a genuinely "creative power" from one that only appears to be "creative," e.g., one which issues from an agent's apparently defective would-be creative intention to produce a "not-thair" by appropriately ignoring and doing nothing to some potential chair-matter.

What, in Evnine's account, blocks an agent from having or successfully carrying out a "pseudo-creative" intention to bring into existence a "not-thair?" As far as I can see, Evnine's account does not, as it stands, deliver a conclusive answer to these questions, since doing so would require him to take a stand on a question he leaves open for future research, viz., how to conceive of the essences of mental states generally and those of intentions specifically (see Evnine (2016a), pp. 243–5 for discussion). Evnine's attempt to distinguish his own approach to ontology from Thomasson's must therefore await the fulfilment of this promissory note. In the meantime, though, we should note that however exactly the essences of mental states are construed, the success conditions for an agent's attempt at exercising a would-be creative intention cannot appeal to the existence or non-existence of the kinds of objects which allegedly form the subject matter of these intentions: for such an account would render Evnine's attempt to differentiate his own version of ontological realism from Thomasson's neo-Carnapian approach circular. Evnine thus cannot help himself to the *non-existence of* "not-thairs" in the course of formulating an account of why an agent cannot succeed in having or carrying out a would-be creative intention to create a "not-thair." Nor can he, without further explanation, appeal to the *faulty nature of the concept*, "not-thair," since the question which needs to be answered by his account is precisely what (if anything) makes this concept faulty. Given that neither of these escape routes are open to Evnine in order to explain the defective nature of the relevant mental state, however, we want to know what else might be wrong with the idea that an agent can have, or attempt to carry out, a would-be creative intention to produce a "not-thair."[16]

(p.234) In this section, we considered the “easy ontology” objection to author-intention-based accounts of artifact-essences. According to this objection, such accounts are susceptible to the worry that it might just be too easy, given their perspective, for an agent to create a new artifact as well as potentially (in cases of prototype production) a whole new artifact kind, e.g., simply by adopting a mental or linguistic attitude in the right context or by relationally (but not intrinsically) altering some pre-existing objects. In order to put this concern to rest, proponents of these approaches must be able to offer a method by which to distinguish between successful and unsuccessful attempts by agents to exercise an intention to create a new artifact and/or a new artifact kind. A satisfying response to the “easy ontology” objection, moreover, cannot (without further explanation) presuppose that we already have in place criteria by which to distinguish between genuinely creative and pseudo-creative powers or intentions; or between defective and non-defective concepts which might be guiding agents in their attempt to exercise such powers or intentions. To provide such a response to the “easy ontology” objection is especially important for those proponents of author-intention-based accounts who (like Evnine and Baker) want to adopt an approach to ontology that is (in their view) less permissive and more substantively realist than Thomasson’s neo-Carnapian “ontological minimalism.” But whether or how these details are best filled in, without generating a circularity for these accounts, is at this point still an open question.[17]

8.4.3 Further Objections: Mass-Production and Scope

I will here only briefly mention two further objections to which author-intention-based accounts appear to be vulnerable. For reasons of space, I will not explore these objections, or possible responses to them, further in the present context. The first of these objections arises from the phenomenon of mass-production, while the second concerns the scope of the theories under consideration.

In cases of mass-production, a single act of creation results in the production of multiple artifacts. Given the proposed specification of artifact-essences in terms of author-intentions, one wonders how the essence of one mass-produced artifact could be distinguished from that of another. Evnine (2016a) discusses this objection (see **(p.235)** Section 3.4.2, pp. 97–103) and proposes that, in cases in which an agent produces multiple artifacts in a single act of creation, the objects in question share a single “collective essence,” but lack distinct individual essences. In such scenarios, it is thus impossible (on metaphysical, and not merely on epistemic, grounds) to distinguish between the individual artifacts that are created in a single act of mass-production, though collectively it is possible to distinguish these artifacts which are mass-produced in a single act of creation from other artifacts which are produced in a distinct act of creation. As Evnine recognizes, this response to the problem of mass-production

will strike many as puzzling and he pursues the challenges posed for his account by the phenomenon of mass-production further in Evnine (2018).

Secondly, in connection with the scope of author-intention-based theories of artifacts, recall that the theorists considered earlier restrict their respective use of the term “artifact,” in various ways. Thomasson and Evnine, on the one hand, only count the intended products of certain kinds of human activities as artifacts, thereby excluding entities of type (3)–(4) considered earlier in Section 8.2 from the category of artifacts proper (viz., by-products, residue, or other unintended outcomes as well as the products of non-human intentional activity). Baker’s account, on the other hand, is tailored specially to “technical artifacts,” i.e., devices which are designed or produced to attain a certain practical goal, thereby excluding “Ready-Mades” and other artworks from the targeted range of entities (see Section 8.2, (2), and (5)). Given these restricted uses of the term “artifact,” it remains to be seen what ontological status should be assigned to these entities which are not included in the category of artifacts proper. Do they belong to genuine kinds and, if so, to what kinds do they belong? Do they have essences and, if so, what determines their essence and their membership in the relevant kind? Since these entities do not appear to fall under already recognized natural kinds and they also lie outside the scope of the relevant author-intention-based accounts of artifacts, these questions concerning their ontological status are, as of yet, not settled.

8.4.4 The Limits of Human Creative Intentions

To sum up, we have in Section 8.4 come across four challenges to author-intention-based accounts of artifact-essences: (i) the possibility that user-intentions, under the right circumstances, might override author-intentions in determining the features relevant to an artifact’s membership in an artifact kind; (ii) the apparent absence of acceptable limits set by author-intention-based accounts on the creation of new artifacts and artifact kinds by agents who merely think certain thoughts or utter certain words in the right context, or relationally (but not intrinsically) alter some pre-existing objects; (iii) the apparent lack of acceptable methods by which to distinguish between multiple artifacts that are mass-produced in a single act of creation; and (iv) the apparent ontological “no-man’s land” occupied by a host of entities which fit neither into already accepted natural kinds nor into the restricted category of artifacts proper as it is conceived of by proponents of author-intention-based accounts.

(p.236) I take away the following main lesson from the preceding discussion of challenges faced by author-intention-based accounts of artifact-essences: author-intentions are *neither as powerful nor as discriminating* as proponents of these accounts make them out to be. Scenarios of the type considered in Section 8.4.1 suggest that the intentions of later users can, in some cases, be at least as authoritative as, or more authoritative than, the intentions of the original author in determining what features are taken to be relevant to an artifact’s

membership in an artifact kind. The “easy ontology” objection considered in Section 8.4.2 brings out that author-intention-based accounts have trouble setting reasonable limits to the creative powers ascribed to agents. Thirdly, as illustrated briefly in Section 8.4.3 by way of the phenomenon of mass-production, author-intentions are not sufficiently fine-grained to yield a method by which to discriminate between multiple apparently distinct artifacts, when these are mass-produced in a single act of creation. Lastly, in connection with the fourth challenge touched on in Section 8.4.3, we noted that, in a host of cases, author-intentions do not extend far enough to be able to determine essences or kind-relevant features for entities that are currently excluded from restricted uses of the term “artifact,” thereby leaving these entities “dangling” between already accepted natural kinds and the category of artifacts proper.

Given that the creative and discriminating power of human intentions is limited in these ways, we ought therefore to take seriously the possibility, disallowed by author-intention-based accounts, that original authors can sometimes be mistaken about, or fail to appreciate fully, how the devices they have invented are best put to use. This alternative perspective suggests that the kind-relevant features associated with a newly invented artifact should not be taken to be stipulatively determined or analytically tied to the concept or intention guiding the artifact’s inventor during prototype production. Rather, the question of how a newly invented artifact is best put to use might be resolved at least in part by empirical methods that are in principle just as, or possibly more, accessible to the later users of the device than they are to the device’s inventor. Given this perspective, the original author who introduces a new artifact or artifact kind should not be assumed across the board to occupy an epistemically privileged position with respect to his or her own invention.

Moreover, I draw the following further skeptical conclusion from our preceding discussion of the challenges faced by author-intention-based accounts. Presumably, the natural choices to consider for those who want to develop essentialist accounts of artifacts are just the candidates discussed earlier. These accounts trace the essence of an artifact either directly to the intentions of the original author; or they do so indirectly by way of the creative acts which lead to the production of an artifact or by way of the primary intended function that is associated with an artifact by its original author. As we observed, the first of these routes toward artifact-essences is taken by Thomasson, while Evnine and Baker choose the second and third options, respectively. We briefly considered a fourth possibility, viz., an account of artifact-essences that is formulated in terms of the intentions of later users (see Section 8.4.1); but we rejected this option due to the obvious difficulties to which it gives rise.

(p.237) We have thus had a chance to examine accounts of artifact-essences which appeal to the following four types of features: (i) original author-intentions, (ii) creative acts, (iii) primary intended functions, or (iv) user-

intentions. Since all four of these options, as we noted earlier, give rise to serious difficulties, the question thus arises as to what other options are available for those who are drawn to essentialist accounts of artifacts. I submit that (i)–(iv) in fact represent the most plausible choices for proponents of essentialist accounts of artifacts. Given that we have identified shortcomings with all four of these essentialist approaches, it is at this point tempting to entertain the possibility that artifacts might find a more suitable home within the confines of an anti-essentialist theory. In many cases, after all, artifacts are created by human beings to serve human interests; and we might therefore expect that their integration into existing anti-essentialist frameworks would be an exceedingly straightforward matter. As I will indicate briefly in Section 8.5, however, popular anti-essentialist strategies are, perhaps surprisingly, not particularly well-equipped to handle the special features of artifacts. Thus, we must, for the time being, concede that the domain of artifacts presents us with an ontological problem case which still awaits a fully satisfactory resolution.

8.5 Challenges for Existing Anti-Essentialist Frameworks

While anti-essentialism comes in many flavors, what is common to these approaches is that they interpret ascriptions of essential features to objects as, in some way, reflective of *human* interests or activities, rather than of the world "as such," i.e., as it would be without human beings in it. Thus, if it were possible somehow to subtract from the world our characteristically human (e.g., linguistic, mental, social, conventional, explanatory, or other) practices, the result would be, from the point of view of the anti-essentialist, a fundamentally *a-modal* reality. When we speak of an individual object or a kind of object as being essentially thus-and-so, the anti-essentialist regards such a characterization as being indicative merely of the fact that the feature in question strikes us, from our human perspective, as being especially noteworthy, relative to some standard of noteworthiness.

Different anti-essentialists trace our modal vocabulary to different sources. To illustrate, some proponents of an anti-essentialist framework, e.g., Alan Sidelle and Theodore Sider, emphasize our ability to choose, more or less arbitrarily, a set of basic semantic or quasi-logical postulates by reference to which our practice of ascribing necessary features to objects can be explained. Thus, according to Sidelle's modal conventionalism (Sidelle (1989, 2009)), a necessary truth, such as "Necessarily, bachelors are unmarried," is made true by a semantic convention adopted by speakers of English according to which the noun "bachelor," is used to apply to unmarried adult males; but how these semantic conventions governing the meanings of our words are chosen, **(p.238)** in Sidelle's view, is completely arbitrary and up to us (see, e.g., Sidelle (2009), pp. 235–6). In a similar vein, following Sider's "Humean strategy" (Sider (2011)), necessary truths are simply theorems which can be inferred from a more or less arbitrarily selected set of axioms (i.e., certain chosen true sentences) via a certain set of truth-preserving rules; but any such choice of axioms and

inference rules, so Sider remarks (Sider (2011), p. 271), results in a version of Humeanism.

In contrast, other versions of anti-essentialism, such as those offered by Meghan Sullivan or C. Kenneth Waters, see the relevant set of practices which gives rise to our essence attributions or to our classificatory schemes as primarily explanatory. Thus, according to Sullivan's "explanation-relative essentialism," the attribution of essential properties to objects is taken to be implicitly relativized to explanatory frameworks governed by objective norms (Sullivan (2017)). Sullivan's conception allows, for example, that we can truly ascribe to gold the property of being essentially a unit of financial value or the property of being essentially an element with atomic number 79, but only when these ascriptions are relativized to the explanatory practices of economists or chemists, respectively. Any attempt, however, to characterize the essence of gold in a framework-independent way, in Sullivan's view, would be misguided.

C. Kenneth Waters' "no general structure" thesis (Waters (2017)) advocates an implicit relativization of central scientific concepts to parameters which can be filled in differently in different explanatory contexts. Unlike Sullivan, Waters' direct concern is not so much with the ascription of essential properties to objects, but with the interpretation of classificatory schemes as they are proposed and employed by practicing scientists. For example, the contemporary molecular gene concept, so Waters argues, does not yield a single correct division of a domain consisting of segments of DNA into a (purported) natural kind, *gene*, since a gene is always taken to be a gene *for* a certain trait. When the parameters implicit in the contemporary molecular gene concept are filled in differently in different contexts, depending on the explanatory interests of molecular biologists, different segments of DNA are singled out as genes. Generalizing from this example, Waters proposes that the world lacks a "general structure," i.e., a structure which would suggest that central scientific concepts yield a single correct division of particulars into natural kinds. This view therefore stands in direct opposition to the conviction of natural kind essentialists, according to whom objects are essentially members of certain natural kinds, independently of the explanatory interests and priorities of scientists.

I take our preceding discussion of the special features of artifacts to indicate that neither the conventionalist/Humean strategy chosen by Sidelle and Sider nor the explanation-relative strategy pursued by Sullivan and Waters is especially conducive to an anti-essentialist account of artifacts. If the first anti-essentialist strategy were feasible, our linguistic and inferential practices surrounding artifacts would have to support the formulation of a single consistent and plausible set of basic postulates governing our artifact terms and concepts, by reference to which apparent necessary truths concerning artifacts (e.g., "Necessarily, telephones are long-distance **(p.239)** communication

devices”) could be explained. But in their attempt to formulate such postulates governing our artifact terms or concepts, the conventionalist or Humean anti-essentialist would presumably look towards just the same candidates to which proponents of essentialist accounts of artifacts are drawn as well, viz., (i) original author-intentions, (ii) creative acts, (iii) primary intended functions, or (iv) user-intentions. Given our preceding discussion of the special features of artifacts, however, we have no more reason to believe that anti-essentialists would be well served to appeal to any of these four options, in their attempt to formulate a consistent and plausible set of basic postulates governing our linguistic or inferential practices involving artifacts, than essentialists were found to be, in their endeavor to formulate a consistent and plausible account of artifact-essences.

The second strategy proposed by Sullivan and Waters is also not especially well suited to the formulation of an anti-essentialist account of artifacts. For our engagement with the realm of artifacts is not primarily aimed at explanation, and the expressions and concepts we use to describe artifacts are not embedded in explanatory practices governed by objective norms in the same way, and to the same extent, as is the case with respect to the special science vocabulary which features prominently in Sullivan’s and Waters’ accounts. To illustrate, we would not expect, for example, that certain features of screwdrivers are antecedently ill-understood (e.g., that the shafts of screwdrivers retain their physical integrity even after repeated use), but become transparent only after the relevant population of experts (e.g., engineers) has uncovered certain other explanatorily more basic features of screwdrivers by empirical means (e.g., that their primary intended use is for tightening and loosening screws). Of course, some questions concerning screwdrivers are no doubt the entirely appropriate targets of empirical investigations carried out by engineers or other relevant experts, e.g., which metals are particularly suitable for the manufacturing of screwdriver shafts, given that these shafts are to retain their physical integrity even after repeated use. But such empirical questions only arise once we have taken as fixed that screwdrivers are primarily intended to be used by agents who wish to engage in certain kinds of actions, viz., to tighten and loosen screws. (A similar contrast between natural kinds and artifact kinds also emerged as a result of our discussion of unity in Chapter 7, especially Section 7.5.)

8.6 Conclusion

We began this chapter with a brief discussion of the question of how to distinguish artifacts (and artifact kinds) from natural things (and natural kinds). Next, we considered existing essentialist accounts of artifact-essences which are formulated in terms of (i) maker’s intentions, (ii) creative acts, or (iii) primary intended functions. In the course of our discussion, we found that author-intention-based accounts of artifact-essences are open to a variety of serious challenges. Finally, we noted that **(p.240)** existing anti-essentialist strategies

are also not as readily applicable to the special case of artifacts as one might have expected them to be.

Although I did not attempt to propose a positive theory of artifacts in the present context, several important lessons did emerge from the preceding discussion. For one thing, a successful alternative treatment of artifacts should reflect the conclusions we reached in Section 8.4.4, according to which human creative intentions are neither as powerful nor as discriminating as author-intention-based accounts make them out to be. Rather, our discussion there indicated that an artifact's kind-relevant features should not in general be taken to be stipulatively determined by, or analytically tied to, the concept or intention guiding the artifact's inventor during prototype production. For the question of how an artifact is best put to use is at least in part an empirical matter to which the artifact's inventor does not always have privileged epistemic access. At the same time, however, an adequate treatment of artifacts must also be sensitive to the fact that the aim of our engagement with artifacts is primarily practical and action-based, and hence not accurately captured by the emphasis placed on our semantic, inferential, or explanatory practices by existing anti-essentialist frameworks. For the time being, the special case of artifacts thus seems to elude an entirely satisfactory treatment and calls for the further development and refinement of existing essentialist and anti-essentialist approaches to the metaphysics of concrete particular objects.

Notes:

([1]) I adopt the latter conception of natural kinds and discuss the question of how a division of things into natural kinds may be motivated in Koslicki (2008a), Chapter 8, and Koslicki (2008b).

([2]) The examples cited in the remainder of this section are not original to me, but familiar and widely discussed in the literature on artifacts (see, for example, Evnine (2016a), Margolis and Laurence (2007) and the references therein).

([3]) What is initially thought of as a mere unintended byproduct or residue could potentially acquire a different status and come to be something that is itself "intentionally made or produced for a certain purpose." The possibility of such transitions would seem to spell trouble for any account, such as Thomasson's, which is committed to the following combination of claims: (i) anything that is in fact an artifact is essentially an artifact and essentially belongs to some artifact kind; and (ii) the unintended byproducts or residue of the intentional purpose-driven production of artifacts are not themselves classified as artifacts and hence do not belong to any artifact kind. For, given (i) and (ii), either all or none of the members of the kind in question are classified as artifacts; and the very same kind cannot at some point include members which are not classified as artifacts and at a later point include members which are classified as artifacts.

([4]) Thomasson's distinction between entities that are essentially the products of intentional human activity and entities that are merely accidentally caused by intentional human activity can be invoked in response to the first class of tricky cases cited above, viz., cases in which entities that appear to be members of already accepted natural kinds nevertheless satisfy Hilpinen's characterization of being "intentionally made or produced for a certain purpose." To illustrate, if it is merely accidental to a chemical compound, for example, that particular instances of it are produced in a lab, then members of the kind in question would not be classified as artifacts, according to Thomasson's account, even if particular exemplars of the chemical compound in question are in fact the products of purpose-driven intentional human activity.

([5]) For more detail on how Thomasson conceives of the ontological, epistemic and semantic differences between the natural and artifactual domains, see especially Thomasson (2003b, 2007).

([6]) Evnine also takes his own more general approach to ontology to be less permissive, and more genuinely realist, than Thomasson's neo-Carnapian "ontological minimalism" or "easy ontology" (see, e.g., Thomasson (2015)). The disagreement between Evnine and Thomasson, for the particular case of artifacts, ultimately comes down to Evnine's more restrictive conception of what it takes for an agent to exercise, or fail to exercise, a genuinely "creative power" (see especially Evnine (2016a), pp. 116–17, for discussion). To determine whether Evnine in fact manages to implement the intended restrictions on what counts as a successful, or failed, attempt at exercising a genuinely creative power would require, among other things, a detailed examination of his general account of actions as artifactual events (Evnine (2016a), Ch. 7). In addition, Evnine has a great deal of interest to say about particular cases in which agents, in his view, exercise, or fail to exercise, different kinds of genuinely creative powers: such cases include, for example, the creation of natural organisms through sexual reproduction (Evnine (2016a), Ch. 5); cases of artistic creation in which artworks are brought into existence in such domains as music, literature, or the fine arts (Evnine (2016a), Sections 4.4.1–2); as well as cases of linguistic creation in which languages are brought into existence by speakers or language-communities (Evnine (2016a), Section 4.4.3). Evnine furthermore pursues the contrast he sees between his own and Thomasson's approach to ontology in greater detail in Evnine (2016b). Although I cannot hope to do justice to this important set of issues in the present context, I will briefly return to the question of whether Evnine has successfully distinguished his own account from Thomasson's ontological minimalism in the way that he intends.

([7]) I will not discuss the Millikan/Elder account of artifacts further here; but see Thomasson (2003b, 2007) for objections to this style of account. See also Kornblith (1980, 2007) for a defense of the view that membership in an artifactual kind is determined by sameness of functions. Other than what is

suggested by Kornblith's examples, however, he does not specify what notion of function he takes to be operative in his account. For a helpful survey and discussion of the plurality of ways in which the notion of function is employed by biologists and philosophers of biology, see Wouters (2005).

([8]) In the remainder of Section 8.4, I focus on four objections which can be raised against author-intention-based accounts of artifact-essences. This selection is by no means meant to be exhaustive; rather, I single out objections which strike me as especially important, not least in that I find them to be indicative of the vulnerabilities characteristic of author-intention-based accounts. In this way, our discussion gives us some indication of how to design a positive account of artifacts down the road which is sensitive to the challenges faced by author-intention-based accounts.

([9]) I borrow this example from Carrara and Vermaas (2009), p. 135, who suggest that the description just cited is historically accurate. I remain neutral on the question of historical accuracy and wish to use the scenario only as a further illustration of the possibility imagined by Kornblith, that user-intentions, under certain circumstances, can override author-intentions in determining which features are relevant to an artifact's membership in a certain kind.

([10]) Moreover, we may further precisify the scenario at hand in such a way that Bell's original author-intention and the intentions of later users are not mediated by an intervening "gray area" in which the function Bell associated with the telephone gradually "morphs" into the function later users associate with the same device by a series of small steps. To exclude this reading, let us suppose that the scenario at hand is closer to Kornblith's case involving carabiners, so that *only* Bell ever intended his device to be used as an aid for the hearing-impaired, and all subsequent users (and makers) intend the device Bell invented (and devices that are of the same type as the device Bell invented) to be used as a device which enables two or more users to carry on conversations over long distances. Given this hypothesis, the dramatic divergence in question between Bell's original author-intention and those of later users cannot be traced to any sort of vagueness or malleability inherent in our artifact-concepts.

([11]) The following possible fourth response to the carabiner and telephone/hearing-aid scenarios was suggested to me by Simon Evnine (pers. comm.). Perhaps the terms, "carabiner" and "telephone," as they are used in the descriptions of these scenarios, are actually ambiguous and designate two different artifact kinds: one kind that has the intended proper function associated with them by the original author and a second kind that has the intended proper function associated with them by later users, who have in effect themselves become authors of a new artifact kind. Following this response, when Alexander Graham Bell uses the term, "telephone," he designates an artifact kind whose intended proper function is to serve as an aid to the hearing

impaired; but when later users/makers use the term “telephone,” they designate a different artifact kind whose intended proper function is that it be used as a long-distance communication device. This response seems to lead to an unnecessary multiplication of distinct artifact kinds and distinct meanings that are associated with our established artifact terms. An account which allows that the intentions of later users can override the intentions of the original author as to how his or her intention is best put to use avoids the ontological and semantic proliferation incurred by this fourth response.

([12]) For discussion, see, for example, Evnine (2016a), Section 3.5, pp. 110–18. Evnine discusses a version of this objection raised in Zimmerman (2002) against Lynne Rudder Baker’s account, as set out in Baker (2000, 2002). Evnine argues that, while his own account can successfully defeat the objection at issue, rival accounts (in particular, Thomasson’s) are susceptible to it. We will return to Evnine’s defense of his own account against this objection shortly. I am here using the phrase, “easy ontology,” somewhat differently from how it is used by Thomasson: when Thomasson uses this phrase, she has in mind the ease with which apparently disputed ontological questions can be settled; when I use this phrase, I have in mind the ease with which new artifacts and new artifact kinds can apparently be created, according to author-intention-based accounts.

([13]) As noted earlier, Baker’s conception of artifacts, unlike Thomasson’s and Evnine’s, is restricted in such a way as to exclude artworks from the category of artifacts. Nevertheless, the case of “Found Objects” serves to bring out the possibility envisioned here, in a way that is compatible with Baker’s account.

([14]) No doubt, as Evnine (2016a) suggests (see pp. 111–12), it would be helpful in this context for proponents of author-intention-based accounts to appeal to a distinction between *being* a K and being (merely) *used* as a K. Thus, proponents of this view, so Evnine argues, need not agree that a piece of driftwood *is* a bench, simply because it is *used* as a bench. But we may wonder whether proponents of author-intention-based account are really entitled to help themselves to this distinction without begging the question. Suppose we are wondering, in a particular scenario, whether an agent has succeeded in creating a new member of the already-existing artifact kind, *bench*, from a piece of driftwood, without intrinsically altering the piece of driftwood. On Evnine’s account, a bench is the product of a certain act of creation in which an agent successfully exercises her intention to create a bench by working in an appropriate fashion on some suitable matter. Given Evnine’s receptiveness towards the case of “Ready-Mades,” the “working in an appropriate fashion on some suitable matter” component that is built into Evnine’s conception of artifact creation can in some instances be satisfied even when the agent does not contribute any physical labor and the underlying matter from which the alleged newly created artifact is “produced” does not undergo intrinsic change. Thus, there seems to be no reason in principle why, on Evnine’s account, an

agent would not be able to create a new artifact, viz., a bench, from a piece of driftwood without intrinsically altering the piece of driftwood, as long as the piece of driftwood is already in the right shape intrinsically to serve as the matter for a bench. In such a case, the agent would simply appear to find herself in the fortunate position that she can exercise her intention to create a bench from a piece of driftwood successfully without physically working on and intrinsically altering the piece of driftwood.

([15]) Here, "CH" stands for the following principle stating the existence-conditions for chairs: "[i]t is sufficient for the existence of a chair that some matter be worked on in the appropriate fashion (i.e., that the matter be arranged chair-wise) and this is true in virtue of what it is to be a chair (i.e., in virtue of the essence of chairs)" (Evnine (2016a), p. 116).

([16]) When Evnine takes up the question of what distinguishes his own account from Thomasson's "ontological minimalism" or "easy ontology" in more detail elsewhere (see Evnine (2016b)), he argues that Thomasson's account falls prey to what he calls "the problem of too much content." Evnine's objection is intended to draw our attention to the way in which Thomasson conceives of the application condition for concepts. As an illustration, Evnine considers the particular case of mereological sums or fusions (according to Classical Extensional Mereology) and argues that the ontological minimalist confronts the following dilemma: either (i) the application conditions governing the concept, *mereological sum*, require nothing more for the existence of a sum than the mere existence of a plurality of objects; or (ii) the application conditions of the concept, *mereological sum*, do require something more for the existence of a sum besides the mere existence of a plurality of objects (e.g., that the objects in question stand in some particular relation, viz., *parthood*, to the sum). Only if (i) is the case (so Evnine argues) may the ontological minimalist hold on to her contention that the question of whether mereological sums exist is a trivial matter. In contrast, if (ii) is the case, then (so Evnine argues) the question of whether mereological sums exist becomes metaphysically substantive, since the existence of sums is then no longer analytically tied by way of the application conditions associated with the concept in question to the mere existence of a plurality of objects. Evnine aims to show that in fact (ii) is the case, as the ontological minimalist implicitly recognizes. In that case, however, Thomasson's approach falls prey to "the problem of too much content," since she must build more content into the application conditions governing concepts than is compatible with her ontological minimalism. However exactly Thomasson responds to this particular challenge involving mereological sums, Evnine's objection unfortunately does not help him further in the case of artifacts, since his own account agrees with Thomasson's on the application conditions for artifact concepts, i.e., the conditions which must be satisfied in order for an artifact to come into existence (viz., that an agent must have successfully

exercised her creative intention to produce a certain thing by working in an appropriate fashion on some suitable matter).

([17]) When Baker responds to a version of the “easy ontology” objection launched against her account in Zimmerman (2002), she proposes that we cannot simply think or speak things into existence for which “our conventions and practices do not have a place” (see Baker (2007), p. 44). (See Evnine (2016a), pp. 113ff, for a discussion of Baker’s reply to Zimmerman.) In order for this response to be effective, however, we would need to know more about how our conventions and practices support the creation of some artifacts and artifact kinds, while disallowing the attempted creation of others.