

Ontological Categories and How to Use Them

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We seem to talk about and think about many different sorts of things. Numbers and baseball games, universities and electrons, laws and legends, money and battlegrounds all form part of our everyday experience. Confronted with such a bewildering array of things we *seem* to think about and talk about, what is an ontologist to do? One important and standard approach, following Ockham, is to see how much one can get away without and, in the interests of parsimony, accept only those sorts of entities which we need. But the need criterion alone is insufficient. What is at issue in developing ontology is what *kinds* of entities one admits: Whether one postulates universals, numbers, mental states, and so on. But by “kinds” we can’t mean just any group of entities falling under a simple everyday classification like cabbages, cookware, youth groups and yard sales. There are far too many such sorts of entities to address on a piecemeal basis, and so if we proceeded in that way we could not hope to offer a comprehensive and systematic appraisal of what there is.

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Moreover, taking a piecemeal approach to ontology is not only excessively time-consuming, but dangerous. Simply denying entities wherever possible can lead to inconsistency if we retain one kind of entity but eliminate the entities on which they’re founded or to arbitrariness and false parsimony if the kinds accepted and rejected are not relevantly different. We would certainly gain no genuine parsimony, for example, by rejecting baseball games but accepting board games into our ontology, since they share the same relevant characteristics (being events that

occur over time, governed by certain publicly agreed-upon rules, engaged in by conscious agents as “players”, etc.).

[3]

To avoid these problems we must supplement the need criterion with a system of ontologically relevant categories in which one *might* claim that things exist, without prejudging the issue of whether there are things in these categories. A system of categories provides a scheme on the basis of which one can draw out different ontological pictures by determining which of these categories are non-empty, enabling one to make principled rather than piecemeal ontological decisions. Moreover, if our categories reflect relations among things in different categories, we can avoid arbitrariness, inconsistency and false parsimony in our particular decisions about what entities to accept and reject. It is the purpose of this paper to lay the groundwork for a categorial approach to ontology and to sketch some of its advantages over the piecemeal approach.

[I.] Ontological Categories

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A system of ontological categories should be natural, so that one can locate important categories and preserve central distinctions; relevant, incorporating appropriate criteria for admitting or rejecting things; and exhaustive, to insure that we haven’t inadvertently left something out and that we do not pose false dichotomies. We can draw out a relevant, natural and exhaustive system of categories according to the ways in which an entity does or does not depend on intentional states and spatio-temporal entities. To do so we need clear definitions of dependence and two properties

- (1) *being real*, where x is real just in case x has a definite spatio-temporal location, and
- (2) *being an intentional state*, where x is an intentional state just in case x has an intrinsic capacity to represent something beyond itself.¹

¹The reference to an “intrinsic” representational capacity is important, for it seems that most plausible candidates for representational systems apart from consciousness itself (including

Categories are distinguished by means of the ways (if any) in which an entity depends on real things and/or intentional states.

[5]

Some important kinds of dependence may be defined informally as follows:

Dependence: Necessarily, if a exists, then b exists.

Historical Dependence: Necessarily, for any time t at which a exists, b exists or existed then or at some earlier time.

Constant Dependence: Necessarily, for any time t at which a exists, b exists at t .

Each of these types of dependence comes in two variants:

Rigid Dependence is dependence on a particular individual.

Generic Dependence is dependence on there being *something* or other of a certain kind.

[6]

The close relations among these definitions of dependence are summarized in a few theorems that have important consequences for what categories are possible and what ontological systems are consistent. They may be summarized as follows:

1. Constant dependence entails historical dependence
2. Historical dependence entails dependence

Provided the reasonable assumption that anything which is an intentional state is necessarily an intentional state, and that anything real is necessarily real, two more theorems may be added:

languages and other sign systems, computer systems, and so on) derive their representational capacities from our intentional designations, and so do not have intrinsic, but only so-called “borrowed” or “derived” intentionality. Roman Ingarden discusses borrowed intentionality in (1973: 125-27), and John Searle discusses derived intentionality in (1983: 175-76).

3. If a is rigidly dependent or historically dependent or constantly dependent on b , and b is real, then a is generically dependent or historically dependent or constantly dependent on there being something real.
4. If a is rigidly dependent or historically dependent or constantly dependent on b , and b is an intentional state, then a is generically dependent or historically dependent or constantly dependent on there being something which is an intentional state.

Armed with these definitions and theorems, we are now in the position to outline an exhaustive set of categories detailing the ways in which an entity depends on real things on the one hand, and on intentional states on the other.

RD = rigid dependence

RHD = rigid historical dependence

RCD = rigid constant dependence

GD = generic dependence

GHD = generic historical dependence

GCD = generic constant dependence

$\neg RD$ = Not rigid dependence

$\neg GD$ = Not generic dependence

[7]

The labels should read down the rows and columns indicated by the text above or to left of the squares, so, for example, everything in the first column is generically constantly dependent, everything in the first two columns is generically historically dependent, and so on. Note that everything which is constantly dependent is historically dependent and everything which is historically dependent is dependent. Six categories are eliminated: Nothing can be rigidly constantly dependent without being generically constantly dependent, nor can there be something which is rigidly historically dependent without being generically historically dependent, nor, finally, can there be something which is rigidly dependent and yet not generically dependent. This leaves us with ten boxes in each case, each of which mayor

			GD			
			GHD			
			GCD			¬GD
RD	RHD	RCD		∅	∅	∅
					∅	∅
						∅
		¬RD				

Table 1: Dependence on Real Entities I.

			GD			
			GHD			
			GCD			¬GD
RD	RHD	RCD		∅	∅	∅
					∅	∅
						∅
		¬RD				

Table 2: Dependence on Intentional Entities I.

may not be occupied. These diagrams should be taken as representing two aspects of a single classificatory system, not as presenting alternative classifications. However, since each diagram has two axes, to diagram it as one system would require a four-dimensional picture, which I am unable to provide. Nonetheless, the single category in which each entity belongs may be distinguished by noting the box where it belongs on each side. Two entities are in the same final category just in case they are in the same box on each diagram.

[8]

While this may not be the *only* adequate way to draw out a categorial ontology, it is natural in that these categories provide a scheme on the basis of which we

can easily compare traditional ontological systems and locate traditional ontological categories such as the real and the ideal, the abstract and the concrete, the mental and the material. Whether or not an entity is spatio-temporally located and whether or not it depends on intentional states are criteria often used in accepting or rejecting entities, making these criteria a relevant basis for drawing out categories. While debates about whether or not to admit universals, mathematical objects, and other abstract entities center around the problem of whether one should admit entities which are not spatio-temporally located; entities that make up the social and cultural world are often avoided in a quest to only posit entities completely independent of us and our mental lives. The way the definitions are formulated insures that these categories are jointly exhaustive, for they are drawn out by considering the ways entities are *and are not* dependent.²

[9]

I have suggested that we need a basic system of categories as a tool for ontological decision-making, but drawing out such an exhaustive and fine-grained category system also has several further benefits. First, it provides an overarching scheme in terms of which we can compare different ontological systems according to which categories they say are occupied. Secondly, laying out an exhaustive system of categories enables us to see alternatives to ontological difficulties and to avoid being taken in by false dichotomies generated by an inadequate categorial system. An interesting side result to this work is that, as we shall see, traditionally opposed categories into which things are bifurcated like the real and the ideal, the (purely) material and the mental, and (under some conceptions of the abstract) the abstract and the concrete, turn out not to be jointly exhaustive, for we can isolate many intervening categories lying between them. I discuss some of these applications at the close of this paper.

²Although they are exhaustive, that does not ensure that they are maximally fine-grained, and indeed other dimensions of classification could be added, though the relevance of any such dimensions would have to be argued for separately.

II. Dependencies on Real Entities

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Let us begin by examining the dimension of categorization drawn out based on an entity's dependencies on spatio-temporal entities. One way to gain a good feel for how the categories work, what they might include, and just how varied the world seems to be, is by describing what good candidates for members of some of these categories would be. I should emphasize, however, that these examples are meant purely to provide a more intuitive understanding of the categories and are not meant as claims that such entities must be postulated nor that, if they are postulated, they must be classed in the category suggested. Thus I will begin by suggesting what good candidates for some of these boxes would be, and thereafter comment on how these divisions line up with traditional categories such as the real and ideal, the abstract and the concrete.

			GD			
			GHD			
			GCD			\neg GD
	RHD	RCD	A	\emptyset	\emptyset	\emptyset
RD			B		\emptyset	\emptyset
					C	\emptyset
		\neg RD	D		E	F

Table 3: Dependence on Real Entities II.

[11] Box A: Entities rigidly constantly dependent on spatio-temporal entities

Since everything is rigidly constantly dependent on itself, all concrete spatio-temporal objects, from independent physical objects such as planets and particles of sand, to concrete social and cultural objects such as The Washington Monument and Notre Dame Cathedral, belong in this category. In addition, anything which is rigidly constantly dependent on a particular spatio-temporal object will be found

in this category. Thus, if we take an object's particularized properties (tropes) to depend rigidly on it, particular properties such as the redness-of-this-apple likewise belong in this category, as do events and processes rigidly constantly dependent on particular spatio-temporal objects, such as the explosion of the first atomic bomb and the rusting of the Statue of Liberty. Each entity belonging in category A may be justifiably ascribed a particular spatio-temporal location, namely that of the real entity on which it depends.

[12] Box B: Entities (merely) rigidly historically dependent on and generically constantly dependent on real entities

Once we move down to the category of entities merely rigidly historically dependent on (not rigidly constantly dependent on) real entities, we encounter entities that lack a spatio-temporal location. (For if they had a spatio-temporal location, they would, in virtue of depending on themselves, belong in Box A.) Yet these are entities which, although they lack a definite spatio-temporal location, are not independent, Platonistic abstracta. Instead they may be brought into existence at a certain time and may once again cease to exist if all appropriate founding entities are destroyed. One plausible candidate for membership in this box is a work of photography such as Ansel Adams' "Moonrise: Hernandez, New Mexico". This work was brought into existence by the real processes of light being reflected from a particular source in Hernandez, New Mexico and hitting a piece of film, thereby exposing the relevant negative one evening in 1941. Thus this work of art is rigidly historically dependent on certain real, spatio-temporal processes. However, the work of photography itself is not a spatio-temporal object. While the negative and each print is spatio-temporally located, the work of art is not identical with any of these, since it may survive the destruction of the negative or any given print, provided there are more prints (or that the negative remains in a suitable state to produce more). "Moonrise: Hernandez, New Mexico" is thus merely generically constantly dependent on there being some good print of it (or means for producing the same, by the preservation of the negative or a copy negative). Clearly similar considerations apply for works of printmaking or multiple-cast sculpture, making them also appropriate candidates for placement in box B.

[13]

Other abstract entities which are tied to a particular source of their creation and continue to depend on some (but no particular) spatio-temporal entities would belong here; thus on some conceptions of a species, biological species might be located here as well (if a species is created through a particular mutation and survives only until it becomes extinct), or types of automobile (which are tied to their source of production coming off of an original blueprint and exist only as long as their exemplars do), and so on.

[14] **Box C: Entities (merely) rigidly dependent on real entities**

So-called “impure types”, such as being an Australian or being a relative of Thomas Jefferson cannot be instantiated unless there is such a real entity as Australia or as Thomas Jefferson at some time, and thus depend rigidly on the real entities Australia and Thomas Jefferson, respectively (see Armstrong 1989: 9). But if we consider universals to exist *simpliciter* or exist at all times just in case they are instantiated at some time, this dependence is not a case of constant dependence or historical dependence, but instead is a mere dependence. Thus on such a conception, impure types would be placed in Box C.

[15] **Box D: Entities generically constantly dependent on real entities and not rigidly dependent on any real entity**

Any entity which exists only as long as some real entities of a certain type survive, but has no ties to any particular real entity belongs in Box D. Laws of state might provide good candidates for entities merely generically constantly dependent on real entities. A certain law might exist in a given society only as long as it is “on the books” and remains unrevoked. Yet for that law to exist ordinarily requires no particular statement of it using any particular paper and ink, and might be created by many different real acts of voting, writing, or commanding (so it is not rigidly historically dependent on any particular acts).

[16]Box E: Entities merely generically dependent on real entities

In re views of universals would place in this box ordinary universals such as being red or being negatively charged.³ For these are merely said to require the existence of some instantiation at some time, and hence their dependence is merely generic (on some instantiation) and mere dependence (at some time).

[17] Box F: Entities not dependent on any real entity

Candidates for entities independent of all real entities include such things as mathematical entities, concepts or properties on a Platonist conception, as they are said to be capable of existing in the absence of all real entities.

[18]

If we turn now to examine the diagram on a larger scale, it is easy to see that many traditional bifurcations of categories are not exhaustive. The real and the ideal belong in boxes A and F respectively, which immediately makes it clear that these are merely the extremes lying at opposite ends of the spectrum with many other possible categories in between them. Concrete entities, ordinarily considered as those spatio-temporally located, likewise belong in box A. But where are the abstracta? Different conceptions of the abstract would locate them in different places on our diagram. Abstracta are sometimes considered to be independent timeless entities, which would mean identifying them with the ideal entities of Box F.⁴ Sometimes abstracta are simply characterized as entities lacking spatio-temporal properties. If one take this to mean that they lack all spatio-temporal properties, then they also cannot depend on some entity to bring them into existence at a particular time, and so can not be historically dependent. Thus on this conception abstracta would belong in boxes C, E and F.⁵ On neither of these conceptions of the abstract do the abstract and concrete turn out to be jointly exhaustive categories. But if one means by this simply that abstract entities lack a spatio-temporallocation, this would make abstracta occupy the lower three rows of the diagram, and leave the abstract and the concrete mutually exclusive and exhaustive categories.

³Such a view of universals is developed in (Armstrong 1989).

⁴Edward Zalta's theory of abstract objects as eternal and necessary entities captures this use of "abstract". See his (1983).

⁵This is how Dale Jacquette defines the abstract in (1995: 3-4).

III. Dependencies on Intentionality

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The ways in which an entity does (or does not) depend on the intentional states of humans, their practices and representational capacities, are equally important to determining ontological categories and crucial in understanding the status of entities in the social and cultural world. Simply laying out these categories already provides the means for making a great deal of progress in analyzing the different types of entities in terms of the different dependencies they bear to the intentional states of humans. A few examples of candidates for members of various categories should suggest this apparent diversity.

		GD				
		GHD				
		GCD				\neg GD
RD	RHD	RCD	A	\emptyset	\emptyset	\emptyset
			B		\emptyset	\emptyset
						\emptyset
		\neg RD	C	D	E	F

Table 4: Dependence on Intentional Entities II.

[20] Box A: Entities rigidly constantly dependent on intentional states

The self-dependence of everything ensures that, trivially, all intentional states themselves belong in Box A. Similarly, the real (not ideal) content of a particular intentional state, such as that of John's belief that Jefferson City is the capitol of Missouri, is generally said to be essentially part of that very intentional state, making it also rigidly dependent on that one intentional state and hence belonging in Box A.⁶

⁶The distinction between the real content of a particular mental state and the ideal content that many mental states can have in common is made by Edmund Husserl in section 16 of his *Logical Investigations* (1970: 576).

[21] Box B: Entities rigidly historically dependent on and generically constantly dependent on intentional states

Entities that are not themselves mental states may nonetheless depend on certain intentional states to bring them into existence and require the maintenance of certain forms of intentionality for their ongoing existence. Works of art, both concrete (such as paintings and sculptures) and abstract (such as works of literature and music) have often been characterized in this way. It is often argued that works of art of all kinds are necessarily tied to the particular source of their creation in the creative intentional (and physical) activities of their creating artist or artists.⁷ Thus on this conception, works of art would be rigidly historically dependent on the intentional activities of the artist creating them. It has also frequently been argued that works of art—including concrete works such as paintings, sculptures and works of architecture—require the ongoing existence of human beings capable of understanding them and co-constituting their aesthetic properties in order to continue in existence as *works of art*.⁸ Thus on such conceptions works of art of all types would belong in Box B as entities rigidly historically dependent on the intentional states of their particular creator or creators, and generically constantly dependent on the intentional states of human beings capable of understanding these works of art and co-founding their aesthetic properties.

[22] Box C: Entities generically constantly dependent on (and not rigidly dependent on) intentional states

Many sorts of entities apart from works of art seem to depend for their ongoing existence on the preservation of certain types of human beliefs and practices, although not all of these can be said to be necessarily created through some particular intentional acts. Money, for example, requires for its ongoing existence that of a community who takes it to be a valid medium of exchange. If this fails in a time of economic crisis, the printed pieces of paper and metal cease to be money at all (See Searle 1995: 37-43). Other functional social entities such as schools and governments, similarly, require the ongoing existence of people who take them to be schools and governments and treat them as having certain powers

⁷For music see Levinson (1990: 82-86). For literature see Ingarden (1973: 7-19).

⁸Joseph Margolis argues against identifying works of art with mere physical objects in (1987: 257-58). Ingarden argues that even pictures and works of architecture are dependent on the creative acts of their artist and on the intentional states of viewers in “The Picture” and “The Architectural Work” in (1989).

to direct the studies of their children or impose taxes, declare war, and so on. If such entities depend for their preservation on such intentional states without requiring any particular intentional states to create them, they belong in Box C.

[23] Box D: Entities generically historically dependent on (and not rigidly dependent on) intentional states

Historical entities such as battlegrounds, former homes of presidents, and sites of ancient religions seem good candidates for members of Box D. In order for these historical entities to exist, there must once have been individuals who believed a certain state of directed conflict to exist, elected someone as president, or believed a given area to be holy. But those individuals, or even all conscious individuals, could cease to exist, without a particular Held ceasing to be the Antietam battleground, a particular structure ceasing to be Abe Lincoln's childhood home, or a particular site ceasing to be the holy ground of ancient Mayans. Unlike current institutional properties, it seems that historical properties can go on existing without further maintenance by the intentional states of individuals, making them merely historically dependent on, not constantly dependent on, intentional states.

[24] Entities merely generically dependent on intentional states

The same considerations that led to placing ordinary universals in Box E of Diagram 1 would lead to placing those universals which are themselves types of intentional states (such as believing that water is H_2O) in this Box E, for on an in re view of universals, such universal types of mental state would exist just in case someone, at some time, is in the state of believing that water is H_2O .

[25] Box F: Entities independent of intentional states

At least two sorts of entity seem good candidates for being classified as independent of intentional states: independent physical particulars (atoms, lumps of lead, etc., taken on a realist view) and platonistic ideal entities. As we can see by dividing things up in this way, the categories of the purely mental and the purely material occupy opposite ends of our diagram (in boxes A and F respectively). These are not jointly exhaustive categories, but again merely the extremes between which most entities in the everyday world fall by exhibiting dependencies both on the physical and on the intentional states of human beings.

IV. Ontological Applications

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Working from a system of categories in which one might claim that things exist provides a useful method for making our ontological decisions with far-reaching applications which can only be sketched here. First, it enables us to avoid a piecemeal approach to ontology which can lead to inconsistency, arbitrariness, and false parsimony, and aids the development of an integrated and comprehensive ontology. For example, we can avoid inconsistency by recognizing that in eliminating supporting entities like intentional states, one also eliminates all of those cultural objects, behaviors and institutions which depend on intentional states. We can also see that if one eliminates non-concrete objects *on principle*, then poems and sonatas, laws and theories disappear along with unwanted universals.

[27]

A systematic set of categories also provides a way of comparing ontologies in terms of which categories they say are occupied. A nominalist concerned to do without all non-space-time-located entities (not just to do away with classes or I universals), for example, would eliminate everything not in the upper left box of the 1 first diagram. A strict materialist would eliminate everything not in the lower right box of the second diagram. A Berkeleyan idealist, claiming that everything constantly depends on being perceived (but perhaps on no particular perceptual intentional states) would claim that only the far left column of the second diagram was occupied. Certain versions of realism may be described as maintaining the thesis that there is something in Box F of the second diagram.

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Perhaps the most interesting results come from the fact that these categories are exhaustive and fine-grained, so that we don't miss any alternatives and needn't mischaracterize entities by forcing them into inappropriate categories. We have seen that many traditional pairs of categories are not jointly exhaustive, and that intermediate categories may be distinguished. The intervening categories provide alternatives wherein new resolutions to old conflicts may be sought. For example, Platonist and constructivist views of values (respectively) represent values as being in boxes E (independent of intentional states) and F (generically historically

dependent on intentional states of a certain variety) of the second diagram. But simply locating these views on our category system makes another alternative apparent (box D): That values are dependent on intentional states (so that a world without agents capable of representing their environment is a world without values) but not created by it. Similar considerations apply to Realist and Intuitionist views of mathematical entities, wherein intervening categories at least provide alternatives to consider.

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Discovering intervening categories enables us to do greater justice to the status of entities, like scientific theories, works of art, and cultural objects, which do not easily fit into traditional categories like the real and the ideal, the material and the mental. So working with a systematic, exhaustive and fine-grained set of categories not only enables us to make principled rather than piecemeal ontological decisions and work towards a comprehensive ontological picture, but also to avoid false dilemmas and, most importantly, to offer a better account of the wide variety of entities in the world around us.

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