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The Real Deal:
What Judgments of *Really* Reveal about How People Think about Artifacts

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Abstract

In two experiments we investigate what drives judgments of what an artifact *really* is and what these judgments reveal about how people think about artifacts. We contrast an essentialist perspective with a pragmatics perspective. Results from both experiments favor the pragmatics perspective that judgments of *really* reflect how well properties of the object match properties evoked by the name in question.

Keywords: artifacts; essentialism; pragmatics; naming

Introduction

A whale may look like a fish even though it is a mammal, and an irregular piece of material may look like a rock even though it is cleverly painted foam. In such cases, one could say that the state of affairs is not *really* what it seems.

The notion that there can be a distinction between appearance and some deeper or truer reality is reflected in objectivist philosophical positions such as metaphysical essentialism (e.g., Putnam, 1975). According to metaphysical essentialism, entities in the world (at least, in the natural world) fall into kinds according to their underlying traits, regardless of whether people are aware of them. Thus a person may think a sample of liquid is water on the basis of its color, smell, and taste, but it is not really water unless its chemical composition is the same as that of other instances of water.

Psychologists have by and large avoided commitments about the nature of the world per se, but they have studied closely the nature of "folk" beliefs about the world and how such beliefs influence interactions with it. Much attention has been paid to children's development of an appearance-reality distinction and ability to talk about it using phrases such as *really and truly* (Flavell, Green, & Flavell, 1986). Further, children's responses to questions about what something looks like versus what it really is have been used as evidence for psychological essentialism (Medin & Ortony, 1989), the view that people act as if metaphysical essentialism is right (regardless of whether it actually is). For instance, Keil (1986) told children stories about animals such as a raccoon that had been altered so it looked like a skunk, and then he asked the children what it looked like and what it really was. By about age 9, children tended to respond that the animal was really a raccoon, and they gave justifications invoking hidden properties. Although adult judgments are not always consistent with beliefs in essences (e.g., Kalish, 1995; Malt, 1994), such beliefs do seem to be central to some aspects of how people interact with the world (e.g., Rothbart & Taylor, 1992).

But raccoons, as well as whales, water, and rocks, belong to the realm of natural kinds. It is less clear how to think about the nature of folk beliefs and knowledge for the case of artifacts -- objects created to serve aesthetic or functional purposes in human lives. Putnam (1975) proposed extending metaphysical essentialism to artifacts, but his perspective remains controversial among philosophers (e.g., Schwartz, 1980; Thomasson, 2007). Psychologists have also debated what people treat as the basis for artifact groupings and whether there is a basis that qualifies as a psychological, if not metaphysical, essence. Rosch and Mervis (1975) suggested that artifact groupings are sets of objects having only a family resemblance to one another. Each object overlaps with others in the group, but no one property or type is the absolute determiner of membership (see also Lakoff's, 1987, radial view). Since then, other psychologists have argued for accounts entailing greater restrictions on membership and more closely resembling essentialist approaches. Suggestions for what constrains membership have focused on original (intended) function and the creator's intended category membership (see Malt & Sloman, 2007a, for a review). Bloom (1996) and Kelemen and Carey (2007), among others, argue explicitly for characterizing artifact representations and judgments about kind membership as hinging on beliefs about essences.

Consistent with the essentialist approach, some intuitions about a divergence between appearance and reality for artifacts are similar to those for natural kinds and can be interpreted in terms of beliefs about essences. For instance, consider an object that looks like a Coke can but has the workings of a radio inside and some controls to make the radio operate. A person might say that it's really a radio, not a Coke can (Bloom, 1996). And if someone takes a shoe and uses it to hammer a nail, both the user and observers would likely say the object is really a shoe and not a hammer. In such cases, the most obvious interpretation is that the judgment about *really* rests on either the function the object was made to serve or the category to which its creator intended it to belong. A number of studies have found that people draw heavily on one or another of these attributes in judging what an artifact is (see Malt & Sloman, 2007a).

But other intuitions about artifacts are not so clear-cut. Many artifacts begin life under one intention and are adapted to new uses. What about a piano stool used as an end table, a decorative cup that serves as a pencil holder, or an old plastic shower curtain used as a drop cloth for painting? Might these objects be thought of as really an end table, pencil holder, or drop cloth, respectively, especially after extended use as such? Could they be thought of as really both, if not just the second?

Three converging perspectives suggest they may be viewed as having shifted what they really are (or be viewed as really both). Dennett (1987) argues that people tend to treat artifacts as if they come endowed with some intrinsic meaning but they are wrong. He suggests that artifacts derive meaning only from how people use them, and that the original intention, over time, becomes of only historical interest. Thus, what an artifact counts as is based on its current utility to those who interact with it, and what it should be called is just a pragmatic matter about how to talk about it in light of its current use. Dennett's argument seems to be primarily a metaphysical one, since he suggests that people are often mistaken in their understanding of this point. At the same time, though, he indicates that lay intuitions in some cases are consistent with this perspective. Compatible with Dennett's remarks about the pragmatic basis for naming artifacts, Malt and Sloman (2007b) pointed out that names for artifacts are usually given in the interest of communication. They argued that what names are judged suitable should reflect what ones will meet the communication goals of a particular discourse context. In a similar vein, Siegal and Callanan (2007) suggest that the embeddedness of artifacts in social contexts will result in their meanings evolving and changing with a culture and community, and that judgments of what an artifact is for can likewise be expected to evolve.

In support of such non-essentialist views, Malt and Sloman (2007b) described artifacts in scenarios that manipulated communication goals, and they asked people to judge how sensible it would be to call the object by each of two names in that context: one reflecting its original, intended category, and one reflecting the use it was currently being put to. Relative liking for the names varied depending on the specific manipulation, but the name reflecting the current use was generally considered sensible, and sometimes more so than the one reflecting the creator's intention. Siegal and Callanan (2007), using simpler scenarios, asked children and adults about what an artifact was *really for*: its original purpose or the one described as current. Both groups tended to favor the current one.

Interpreting such results as evidence against an essentialist psychology for artifacts depends, however, on assuming that answers to such questions reflect people's conceptualization of the objects themselves. Bloom (2007) suggested that Malt and Sloman's (2007b) findings about name acceptability in discourse contexts are about only that -- pragmatic choices for communicative purposes -- not about how people think about the objects non-linguistically. In other words, he suggested there is something an artifact really is that may be different from what someone chooses to call it for communication purposes. One could also interpret Siegal and Callanan's question as eliciting pragmatic choices; participants might interpret "what is it really for?" as meaning something like "what is it being used for by the people in the scenario"? rather than as meaning something about judging a deeper, underlying quality. To help address this issue, Malt and Sloman (2007b) presented scenarios similar to their original ones but asked people what the objects *really* were. These judgments showed a stronger influence of creator's intention than the judgments of name use had, consistent with Bloom's suggestion. At the same time, however, the judgments were influenced by the pragmatic variables, such that an object was judged more strongly *really* a certain thing when the discourse context made it more likely it would be named as such. Furthermore, in scenarios contrasting accidental creation of an object with intentional (modeled on Gelman & Bloom, 2000; e.g., a piece of newspaper was described as either accidentally or intentionally folded into a hat shape), participants considered the object to be really the material (newspaper) much more than they considered it to be really the object created (hat), even when the creation was intentional.

Thus past results give a somewhat murky picture of what drives people's judgments about what artifacts really are. It seems that people give more weight to creator's intended category (or intended use), overall, than they do in judgments of name acceptability, but the impact is variable, and the same kinds of pragmatic variables that influence what name is preferred in the communicative situations also influence *really* judgments. The goal of the two experiments we present is to better understand what drives judgments of what an artifact really is and what these judgments reveal about how people think about artifacts. We contrast two perspectives. The *pragmatics* perspective suggests that intuitions about what an artifact really is derives from a sense of what name(s) would be appropriate for it in some context. A judgment that an object is really an X means that the current conceptualization of the object is consistent with the properties that the specified name evokes. This perspective, similar to a family resemblance/radial view of categories, suggests that many dimensions may be relevant, including but not limited to the creator's intended category and original, intended use. Weights on dimensions may vary depending on what the context makes salient, and a person may even be able to maintain two different conceptualizations of an artifact, making two names acceptable. The *essentialist* view, in contrast, suggests that intuitions about what an artifact really is derives from an understanding of the creator's intended category or original, intended use. (We do not attempt to disentangle these two.)

Experiment 1

If the pragmatics perspective is right, intuitions about what an artifact really is may be driven in part by how well its physical qualities fit the usual or typical description associated with an object name. Malt and Sloman's finding of low ratings for a crude newspaper hat as really a hat (and other such stimuli) may be explained in these terms. Likewise, a desk used to iron a shirt on may be judged still really a desk because its physical features resemble only to a small degree those normally associated with *ironing board*.

On the other hand, a decorative, narrow-necked bottle used as a vase may be judged really a vase because it closely resembles things typically called *vase*. If the essentialist perspective is right, the original intention for the object should matter but not the typicality of its instantiation (provided the features are not incompatible with the intention, creating doubt about it). In the first experiment, we manipulated how typical objects' physical features were of artifact names. We also manipulated whether the name to be judged was given to the object by its creator or by someone who had no direct knowledge of creator's intent. If the pragmatics perspective is correct, high typicality items should be judged *really* an X more than low typicality ones, regardless of who has given the name (although knowledge of creator's intent may also contribute to the judgments). If the essentialist perspective is correct, typicality should matter only when the creator's intention is unknown. (In that case, object features are the best indicator of what the creator's intention was.)

Method

Booklets presented 28 household objects found in on-line catalogs under one of the following names: *can*, *jar*, *box*, *stool*, *bench*, *ladder*, *pail*, *bucket*, *tape*, or *chest* (of drawers). At least two examples of each name were used such that exemplars were likely to vary in perceived typicality. We avoided objects named by conventional compounds such as *juice box* or *hair brush* that might be viewed as belonging to categories distinct from those named by the head noun. See Figure 1 for examples.

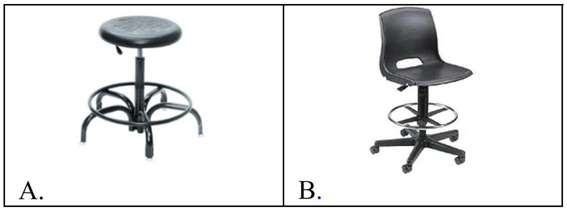

Figure 1: (A) Typical stool; (B) Atypical stool.

The booklets either provided information about the manufacturer/vendor's intended name or did not. For booklets with intention present, enough of each object's Web page was printed to present the full object label (e.g., "Heavy-duty steel rolling ladder") and purchasing information (e.g., company name, item price, item details). For booklets without intention, objects were presented with the same full label beneath it but no other information. Participants were given examples of unrelated cases where one might debate whether to say something is really a certain thing (Is a toy gun really a gun? Is water running really a case of running?). They were told that some people might decide yes, some no, and some might feel some cases are and others aren't. The participants receiving booklets with intention present were told that they would be seeing objects with information about what their manufacturer called them. Participants receiving booklets without intention were told that the names were given by someone who finds items at garage sales and re-sells them on eBay, using the best name he can come up with. All participants were asked to look over the picture and text for each object and choose a rating from 1 ("not at all sensible") to 7 ("very sensible") for the statement *It's really an X*, where X was the name from the catalog (*ladder*, *pail*, etc., without modifiers). They were told that their judgments could fall mostly at one end or in the middle, or could be a mix. To provide an objective assessment of typicality, a separate group of participants rated each object on a 1 to 7 scale for how typical it was of things called by the listed noun.

Results and Discussion

The typicality ratings were used to divide the objects into the 14 most and least typical. Low typicality items had a mean rating of 3.30; high typicality items had a mean of 6.23. Means were then calculated for the *really* ratings for the two typicality levels, for both the creator's intention version and the eBay version (see Table 1).

Table 1: Mean *really* ratings as a function of typicality and name source.

	Name Source	
Typicality	Creator	eBay
Low	3.77	3.64
High	6.49	6.14

The main effect of typicality was highly significant, F(1, 39) = 239.37, p < .001, indicating that people considered the objects to be more *really* an example of a name when they were typical of the name than when atypical. The effect of name source was not significant, F(1, 39) = 1.45, p > .2, and name source did not interact with typicality, F < 1, showing that people placed little weight on the name source in their judgments and did not rely on typicality more when creator's intention was unknown. These results demonstrate that physical properties of objects have a major influence on whether they seem to be *really* an instance of a name, suggesting that people are evaluating whether properties of the objects are consistent with those brought to mind by the name. They favor the pragmatics perspective over the essentialist perspective.

Experiment 2

The pragmatics perspective suggests an object may be judged *really* something different from the original intention if its current conceptualization is consistent with a different name. It may even be considered really more than one thing if it can be thought of as consistent with more than one name. Thus a piano stool used next to a sofa to hold a candy dish might be considered really an end table, or possibly really both a stool and an end table. The essentialist perspective, in contrast, suggests that it should be regarded as really the first, even though used as if the second. Malt and Sloman (2007b) found that participants generally accepted names associated with a new use for referring to objects in conversation. When asked what the object really was, though, ratings in some cases leaned more toward the old name, suggestive of greater reliance on the creator's intention. Complicating interpretation, however, is that in those experiments no pictures were used, only object names. No attempt was made to control what properties participants imagined the objects to have, and hence how similar they might seem to things normally associated with the original or new name. Thus, a Frisbee used as a picnic plate might have been thought of as resembling a typical Frisbee more than a typical picnic plate. The current Experiment 1 supports the idea that what participants imagined the object to look like based on its original use may have influenced their willingness to judge it really a different thing. Experiment 2 therefore provided explicit descriptions of objects and pre-tested each description to ensure that its properties were equally typical of both the original and alternative names.

Another factor influencing the extent to which conceptualization of an object is consistent with a name may be the extent to which the role associated with that name has become entrenched (see also Dennett, 1987; Siegel & Callanan, 2007). A piano stool temporarily holding a candy dish for a party may be judged still really a piano stool, whereas a piano stool permanently set next to the sofa, in a room with no piano, may more likely be considered really an end table. Adapting Siegel and Callanan's (2007) manipulation, we attempted to influence perceived entrenchment by varying who was shifting the object to a new use and how many people were making the shift. The person was either the object's creator, or its owner, or someone merely looking at the item and thinking about a new use while shopping. Either one such person was making the shift or many were (that is, many artisans producing similar objects, many owners, or many shoppers). The pragmatics perspective predicts that both these variables may influence the extent to which conceptualization of the object is consistent with the new name. The essentialist perspective suggests that neither will because judgments of what the object is really will be tied to the original intention.

Although the primary measure of interest was *really* judgments, to further evaluate the possibility that people treat name choices for purposes of communication as distinct from what something really is, half the participants judged whether it was acceptable to call the object by each name (e.g., *It's OK to call it an end table* and *It's OK to call it a stool*) instead of what it really was. We also asked participants for verbal justifications of decisions in order to provide insights into the basis for their judgments.

Method

Stimuli were short stories consisting of an object description followed by a paragraph describing the object's original and new use. Object descriptions were developed through a two-part pre-test aimed at creating descriptions equally compatible with the original and new use. First, nine pairs of object names were selected, representing objects that could feasibly be made for one use but given a new one (e.g., Frisbee/picnic plate; tablecloth/picnic blanket). The nouns were presented (unpaired) in random order to participants who were asked to list, for each noun, features generally true of objects with that name. Features produced by a third or more of participants for either noun in a pair were considered in creating its object description. Second, object descriptions were given to a separate set of participants who rated each on a 1 to 7 scale for typicality with respect to the two potential names. Six descriptions with ratings above 5.0 for both names and no more than a 1-point difference between them were retained for use. These descriptions were for the pairs: stool/end table; candy dish/ashtray; tablecloth/ picnic blanket; watering can/teapot; letter opener/butter knife; and umbrella/lampshade.

Each stimulus for the main experiment consisted of an object description followed by a brief story in which the object was created under one intention but might now be used in a different way. The stories manipulated Person Type (who was making the change: the artisan creator, owner, or shopper) and Number (how many were making the change: one person or many). For example, for the stool/end table stimulus, the item description was:

> Picture an object made of dark varnished wood, about 2.5 feet high, with four cylindrical legs and a flat, 1.5-ft.-by-1.5-ft. top.

The version in which one person, the creator, changed its use read as follows:

> John is a carpenter. He created objects like this one to be sold as end tables. They've been for sale in his shop for several years. Then, one day a few years ago, he decided to start selling them as stools. He has made and sold them as stools ever since. He never plans to make or sell them as end tables again.

In the version in which one person, an owner, changed its use, the first three sentences remained the same but the remainder read:

> Then, one day a few years ago, he sold one at his shop to Marla, but Marla didn't buy it to use as an end table. Although she knew it was intended to be used as an end table, Marla bought it to use as a stool and has been using it as a stool ever since.

In the version in which one person, a shopper, changed its use, the first three sentences also remained the same but the remainder read:

> Then, one day a few years ago, Marla was browsing in the shop and noticed one. She thought, "If I could afford that, I'd use it as a stool, not an end table." Marla has often come to the shop over the years and admired the object, but she hasn't been able to afford it

In the remaining versions, many carpenters, owners, or shoppers made (or thought about, for the shopper) the change.

Each participant read about only one object in one story version and then judged the acceptability of either two *really* statements for the object (e.g., *It is really an end table* and *It is really a stool*) or else two *OK to call* statements (*It's OK to call it an end table* and *It's OK to call it a stool*), with name order counterbalanced across participants. The rating scale was marked with 1 as barely acceptable and 7 as very acceptable. After giving ratings, participants wrote a brief explanation of their ratings.

Results and Discussion

As Table 2 shows, the two entrenchment variables – Person Type and Number – had little effect on judgments of *really*. There was no main effect of Person Type or Number and no interaction of either with Name (old vs. new), all Fs close to 1. The pattern for judgments of whether it is "OK to call" the object by a name was very similar (see Table 3), except for a small but significant main effect of Name, with Old names slightly preferred, $F(1, 84) = 7.33$, $p < .01$ (which may reflect slightly higher typicality with respect to old names). Thus, it seems that, at least in this implementation, participants paid little attention to who and how many people are considering the object in a new light. This outcome is inconsistent with that of Siegal and Callanan (2007), and may reflect the greater complexity of our stories, which did not as directly focus attention on the key variables.

Table 2: Mean ratings for *really* judgments.

		Person Type		
Number	Name	Creator	Owner	Shopper
One	Old	5.33	5.20	5.33
	New	5.73	5.60	5.33
Many	Old	5.40	5.40	5.73
	New	5.80	6.07	4.60

Table 3: Mean ratings for *OK to call* judgments.

		Person Type		
Number	Name	Creator	Owner	Shopper
One	Old	5.40	6.20	5.93
	New	4.93	5.33	5.27
Many	Old	5.07	6.20	6.33
	New	5.53	5.00	5.27

The most striking result is that for both judgments of what an object really is and what it is OK to call it, participants considered the names associated with the old use and with the new one both quite acceptable, with mean ratings at about 5 and above on the 7-point scale for both, in all conditions. This outcome is consistent with a pragmatics perspective but not an essentialist perspective. (The slight preference for old names in *OK to call* judgments is inconsistent with the essentialist prediction for the difference to emerge in *really* judgments.) It might be suggested that the willingness to agree with both options, and the lack of influence of the other variables, is because participants are not reading the stories or are not thinking about their choices and responding randomly. However, the justifications that participants gave argue against this interpretation. Participants reliably referred to information from the stories about the properties of the objects and/or the people interacting with the objects, indicating that they did read the stories and use the information in their decisions. Furthermore, individual justifications corresponded to ratings (i.e., if a justification indicated that only one name was acceptable, the ratings reflected that, and likewise if it indicated that both were acceptable).

Justifications were coded into five categories depending on what information the participant appealed to: multiple types of properties, physical properties; functional properties (other than original intended use); intended category/use, and other. The distribution of justifications was similar for *really* and *OK to call* judgments (see Table 4), with the only notable difference being a somewhat greater appeal to physical features for *really* judgments. Most importantly, justifications frequently appealed to multiple types of information, and few appealed solely to the original intention. The justifications are consistent with the rating data in suggesting that participants did not rely primarily on creator's intention but rather considered multiple properties in deciding whether the object was compatible with a name.

Table 4: Justification type percentages.

Judgment	Justification Type				
	Mult.	Phys.	Func	Intent.	Other
Really	46	28	13	4	9
OK to call	49	19	19	3	10

In sum, the results are most compatible with the pragmatics perspective. The entrenchment manipulations did not influence the judgments of what the objects really are, contrary to this view. However, the high mean ratings for objects as both really the original type of thing and really the new type of thing indicate that people are willing to think of an artifact as having two identities at the same time, perhaps depending on from whose perspective, or from what point in time, they are considering it. Verbal justifications support this conclusion. Furthermore, with these stimuli balanced for typicality with respect to both names, there was no difference between ratings of *OK to call* and ratings of *really*, arguing against the possibility that naming judgments are inherently different from judgments of what an artifact really is.

General Discussion

We have asked what people mean when they say that an artifact is *really* some particular kind of thing. The essentialist perspective is that they are basing their judgment on beliefs about the presence of an underlying essence. The pragmatics perspective is that they are basing it on compatibility of their conceptualization of the artifact with properties brought to mind by the category name. The data from our two experiments support the second possibility. One might propose variants of an essentialist hypothesis that are more compatible with our data, such as allowing an artifact's essence to evolve or shift if a user endows it with a new use. However, the influence of physical as well as functional properties demonstrated in Experiment 1, and the willingness to accept more than one name as what an artifact really is, demonstrated in Experiment 2, suggest that any successful account must have a flavor not usually associated with essentialism.

We began this paper by noting that for natural kinds such as whales, water, and raccoons, it seems sensible to talk about an appearance-reality distinction, and that such talk can be interpreted as reflecting appeals to superficial features vs. underlying essence. Does our argument for a pragmatics perspective on artifacts create a dilemma for explaining why a person might, likewise, sometimes say that a particular artifact is really one type of thing although it appears to be another (as in the case of a radio that looks like a Coke can)? We think not. An artifact can have properties different from those it initially appears to have, and those discovered properties can be compatible enough with those evoked by a particular name to say it is really the second type of thing, without the discovered properties being of any particular sort qualifying them as essences.

Indeed, the pragmatics perspective explains why one can defend several different assignments of reality in such artifact contrasts, as responses in Experiment 2 imply. For instance, consider jelly jars adopted for use as drinking glasses by a family. A visitor might ask "Why do you drink from jelly jars?" and the family might respond, "They are not jelly jars to us; they're our glasses." A neutral observer might make the case for any of several options: "They're really jelly jars" or "They're really drinking glasses (*now*, though they may once have been jelly jars)" or "They're really both jelly jars and drinking glasses." Whether one name or the other, or both, are most compatible with the objects depends on whose perspective(s) the observer takes and what properties (including physical, functional, and original intent) are thereby most heavily weighted.

In light of this emphasis on the perspective taken on an artifact, it is especially puzzling why manipulations of the entrenchment of a use have had relatively little effect here and in Malt and Sloman (2007b). It seems likely that entrenchment is a powerful influence on what an artifact really is to someone in real life (as in the case of the jelly glasses). Our manipulations may not have been salient enough, or entrenchment may be a variable that needs to be experienced, not just heard about.

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