Published in *The Review of Metaphysics* 87 (March 2023): 507-540.

Deferred Ostension of Extinct and Fictive Kinds

Chad Engelland
University of Dallas

Abstract: This paper addresses two problems concerning the deferred ostension of extinct and fictive kinds. First, the sampled item, the fossil or the depiction, is not a sample of the referent. Nonetheless, the retained characteristic shape, understood via analogy with living creatures, enables the reference to be fixed. Second, though both extinct and fictive kinds are targets of deferred ostension, there is an important difference in the sample. Fossilization is a natural causal process that makes fossils to be reflections of their originals. As reflections, fossils embed their referents in the primary existential world of perceived things. Images of artificial kinds, by contrast, leave their referents in the secondary existential world of mere appearance. In this way, the paper widens the scope of the Kripke-Putnam account of ostension for naming kinds by drawing on Quine's concept of deferred ostension for absent referents.

Keywords: Deferred ostension; reference; existence; extinction; fiction; natural kinds; Quine; Kripke; Putnam; Plato; causality

"That's a *T. rex*," we say to a child as we point to one of the following: a fossilized skeleton on display at the natural history museum or an artistic rendition in a book or film. This differs from the way we might establish a reference to zebra by pointing not to its skeleton or artistic representation but to a photograph in a book or its living presence during a trip to the zoo. Even were we to have been present to a live T. rex, we would not be present to T. rex the species without remainder; for there is much to the species that this specimen does not exhibit and does not exhibit at a particular time (one refers, for example, to the species, rather than say, a particular stage of development or one refers to the species but this is a male). Still one must say this: while the natural kind is not fully present in the case of a living example, it is nonetheless genuinely present in the example. This sample is indeed an example of that natural kind. Yet when we have a dig and discover dinosaur bones, what we find is not a particular dinosaur but only the *vestiges* of a particular dinosaur. Referring to an extinct species, then, is a kind of

extreme intensification of the partial absence of the natural kind when confronted with a living sample.

An extinct natural kind such as a dinosaur is an example of what I call an ineluctably absent referent. It is ostended through mediation without the possibility of directly pointing to the ultimate object of reference; it cannot be ostended in the flesh.[1] How can something be ostended when it is nonexistent and hence not able to be made present to establish the reference? The sampled referent is not there to be picked out, but the referent is able to be picked out by what is there. How is such deferred ostension possible? This is what I call the sample problem. A second class of ineluctably absent things, namely artificial kinds such as unicorns and centaurs, are likewise ostended through mediation (a picture, a statue, etc.) without the possibility of directly pointing to the ultimate object of reference. How do these two cases of deferred ostension differ? How, that is, does the ostension of an extinct natural kind differ from the ostension of an artificial kind? This is what I call the existential contrast problem. In both cases the referent is ineluctably absent; the difference is that the dinosaur once was present but the centaur never could be. By solving these two problems, I aim to expand the Kripke-Putnam account of reference beyond natural kinds.[2] References are fixed either through ostension or an

[1] Elsewhere I defend the Augustinian view that children learn their very first words through ostension in the flesh. See Chad Engelland, *Ostension: Word Learning and the Embodied Mind* (Cambridge, MA: The MIT Press, 2014). Here I wish to look at new varieties of ostension that can arise once language is already fully operative, once, that is, the child can ask, "What is that?"

[2] Saul Kripke, *Naming and Necessity* (Malden, MA: Blackwell, 1981); Hilary Putnam, "The Meaning of 'Meaning'," in *Mind, Language, and Reality* (Cambridge: Cambridge University Press, 1975), 215-71; Putnam, "Meaning, Other People, and the World," in *Representation and Reality* (Cambridge, MA: The MIT Press, 1988); and Putnam, "Aristotle after Wittgenstein," in *Modern Thinkers and Ancient Thinkers: The Stanley Victor Keeling Memorial Lectures at University College London, 1981-1991*, ed. Robert W. Sharples (Boulder: Westview Press, 1993), 117-37. For recent overviews of Kripke and Putnam, see Scott Soames, "Reference and Description," in *The Oxford Handbook of Contemporary Philosophy*, ed. Frank Jackson and Michael Smith (Oxford: Oxford University Press, 2005), 397-426, and Gregory Bochner, *Naming and Indexicality* (Cambridge: Cambridge University Press, 2021). Ian Hacking documents the way Kripke and Putnam diverge on the importance of essence for this account. See "Putnam's Theory of Natural Kinds and Their Names Is Not the Same as Kripke's," *Principia: Revista Internacional de Epistemologia* 11 (2007): 1-24.

initial description that in most cases could be replaced with an ostension.[3] In pursing this development of deferred ostension of non-existent kinds, I will avail myself of the resources of phenomenology, which thematizes the identity of a thing across the interplay of presence and absence.[4]

I first consider the role of absence in everyday ostensive acts, which point to a sample, by definition singular, in order to name a universal, which embraces all individuals of that kind, including those that are absent. I then introduce the case of radical absence: of fixing references to kinds that cannot be made present because individuals of these kinds do not now exist. I then turn to the sample problem that arises in establishing a rigid designation for ineluctably absent things. I argue that the shape or characteristic look of the sample across imitation, whether natural fossilization or artistic illustration, constrains the reference to target not just the absent cause but the absent species, and that this imitative shape is understood thanks to an analogy with living beings. Next, I argue that the ostension of extinct species differs from the ostension of artificial ones even though both are limited to ostension through imitations. The natural, causal imitation that is fossilization roots the reference of extinct kinds in the primary world of experience rather than the secondary world of fiction. At the end, I turn to the question of negative existentials. References to artificial kinds concern things that in principle could never be ostended in the flesh; references to extinct species are constrained by the natural imitation of fossilization to target things that in principle could have been ostended in the flesh. Dinosaurs, unlike fire-breathing dragons, once were, though as an accident of natural history, they, like dragons, cannot be ostended in the flesh but must rather be ostended in a deferred manner.

---

[3] Kripke, *Naming and Necessity*, 96.

[4] For a classic expression of this phenomenological theme, see Robert Sokolowski, *Presence and Absence: A Philosophical Investigation of Language and Being* (Bloomington, IN: Indiana University Press, 1978). My own approach can be gleaned from Engelland, *Phenomenology* (Cambridge, MA: The MIT Press, 2020), and Engelland, editor, *Language and Phenomenology* (London: Routledge Press, 2020).

In this way, the paper endeavors to sort and relate the principal issues that arise concerning fixing the reference to absent kinds. By doing so it draws attention to the causal difference between the sort of imitations that support identifying extinct kinds (fossils as reflections) and the sort of imitations that support identifying fictive kinds (depictions). By means of this difference, the paper sheds light on existence as a matter of a referent's being embedded either in the primary world of nature, constituted through causal necessity, and the secondary worlds of fiction, constituted through fittingness alone. Thinking about the mythical and the extinct serves to enhance our appreciation of reference and its relation to existence.

I

Kripke highlights the role of ostension in establishing names for natural kinds: "The original concept of a cat is: *that kind of thing*, where the kind can be identified by paradigmatic instances. It is not something picked out by any qualitative dictionary definition."[5] The ostension of any natural kind involves an act of identification through differentiation from other species. Kuhn provides the following example: on a stroll with a child, one might ostend a swan; in this case, the child must distinguish that bird from other birds it is already familiar with by attending to the characteristic shape that makes it different from ducks, geese, and other waterfowl.[6] The teacher's ostension does not impart knowledge to the learner; it rather affords the occasion for the learner to discover what is different about the ostended item.

Scientists in the field classifying a new species of butterfly do not name the particular but instead the type the particular represents. That act of referring encompasses every possible butterfly of that type, past, present, or future. Yet, the scientists do not have every possible

[5] *Naming and Necessity*, 122. He argues against Frege and Russell that terms for species function much like proper names fixed by naming baptisms. *Naming and Necessity*, 127 and 134.

[6] Kuhn, *The Essential Tension* (Chicago: University of Chicago Press, 1977), 310.

butterfly, past, present, or future, of that type present, and the various specimens of the same type exhibit innumerable individual variations. Hence, what make the examples exemplary are features that are not necessarily immediately clear. Kripke puts it this way:

> In the case of natural kinds, certain properties, believed to be at least roughly characteristic of the kind and believed to apply to the original sample, are used to place new items, outside the original sample, in the kind. … These properties need not hold *a priori* of the kind; later empirical investigation may establish that some of the properties did not belong to the original sample, or that they were peculiarities of the original sample, not to be generalized to the kind as a whole.[7]

Kripke gives the example of the yellowness of gold; it may turn out that yellowness, *pace* Kant, is not essential and there could be such a thing as white gold.

It is controversial nowadays to talk about biological species as natural kinds. Keith Donnellan makes the case that there is more distance between natural kind terms and scientific discoveries than Putnam allows.[8] John Dupré thinks the Putnam-Kripke account of naming natural kinds in terms of exemplars and exemplary properties fails due to the lack of such properties for biological species. He details various borderline cases of overlapping properties to build his case. He argues that "overt morphological" and "covert microstructural" differences are not sufficient criteria for sorting all species.[9] He accordingly advocates "promiscuous realism," which asserts that there may be numerous sorting properties relevant to different concerns but there are no essential ones.[10] Hacking details a difference between Kripke and Putnam concerning the role of essences: Kripke remains more robustly metaphysical and Putnam somewhat more pragmatic.[11]

---

[7] *Naming and Necessity*, 137.

[8] Keith Donnellan, "Kripke and Putnam on Natural Kind Terms," in *Knowledge and Mind*, ed. Carl Ginet and Sydney Shoemaker (Oxford University Press, 1983), 104.

[9] "Natural Kinds and Biological Taxa," 84; see also Dupré, "Is 'Natural Kind' a Natural Kind Term?" *The Monist* 85 (2002): 29-42.

[10] "Natural Kinds and Biological Taxa," *The Philosophical Review* 90 (1981): 82, 89.

[11] See "Putnam's Theory of Natural Kinds and Their Names Is Not the Same As Kripke's," 1-24.

Problems of ostending species are not lost on Kripke and Putnam. Kripke admits that his "informal" discussion of species likely "ignored a nest of special technicalities."[12] Putnam, for his part, rejects skepticism about natural kinds and yet thinks biological species, after Darwin, are "somewhat indeterminate."[13] Where does that leave us? I have no reason to disagree with Dupré that in some cases overt shape and covert structure are not sufficient to distinguish one species from another, but I do not think that should cause us to overlook that they are nonetheless sufficient in most cases. Gomez is probably right that Kripke and Putnam err in tethering natural kinds to scientific discoveries too closely.[14] In this respect, Judith Crane's separation of the Kripke-Putnam semantic problem of natural kinds from the problem of scientific kinds seems advisable.[15] Therefore, while acknowledging that there is more work to be done,[16] I nonetheless think we can turn from the problem of ostending natural kinds to the problem of ostending extinct and fictive kinds.

Kripke says that we can refer to tigers "because tigers are around; we have historical causal connections to them in the real world by virtue of which we can refer to them."[17] How, then, can we ostend an ineluctably absent species, one that is by historical accident not around? We cannot avail ourselves of strategies for dealing with non-ineluctably absent species and historical individuals. The ostension of long extinct species comes through some vestige of an

---

[12] "Vacuous Names and Fictional Entities," in *Philosophical Troubles: Collected Papers*, vol. 1 (Oxford: Oxford University Press, 2011), 67 n. 28.

[13] "Reply to Ian Hacking," in *The Philosophy of Hilary Putnam*, ed. Randall E. Auxier, Douglas R. Anderson, and Lewis Edwin Hahn (Chicago: Open Court, 2015), 360. Putnam argues we can classify something according to diverse interests but, given those interests, the classification exists independent of us. See "Aristotle after Wittgenstein," 134.

[14] Mario Gómez Torrente, *Roads to Reference: An Essay on Reference Fixing in Natural Language* (Oxford: Oxford University Press, 2019), 140-83.

[15] Judith K. Crane, "Two Approaches to Natural Kinds." *Synthese* 199 (2021): 12177-98.

[16] Michael Thompson's notion of "life-form" judgment, which is not about a particular but about the typical, and which seems relevant for elevating the example to the exemplar, of sorting which features are idiosyncratic and which are not, seems in this connection particularly fruitful. See *Life and Action: Elementary Structures of Practice and Practical Thought* (Cambridge, MA: Harvard University Press, 2008), 68-76.

[17] Kripke, "Vacuous Names and Fictional Entities," 66.

example now present and not through the testimony of others. Unlike the case of some new species discovered in a remote region of South America, there is no person to establish a chain of reference that links to us in the present.[18] Nor does the reference require a "division of linguistic labor" as do many referents in theoretical physics.[19] For the child can read the label and see the dinosaur skeleton for herself. Yes, a paleontologist knows a lot more about dinosaur species, but he or she does not have a more direct access to the dinosaur species than the visitor to the museum. In this respect, then, ineluctably absent referents differ from the absent referents of history and theoretical science.

II

Kripke says that references are fixed at a naming baptism accompanied either by an ostension or by an initial description, either by what Putnam calls "indexical descriptions" or by "nonindexical descriptions."[20] The latter is what Sokolowski calls "a throwaway description," introduced only to establish the reference after which it can "fall away."[21] Of course, in naming species, it is customary to encode an initial description into the baptismal name. For example, "Tri-cera-tops" comes from the Greek for three-horned-face. But just to have an initial description is not enough to fix a reference. A three-horned-face mammal won't be called that, so the initial description falls short, but *that* three-horned-faced *animal* is to be called that. The ostensive act is required to apply the description and convert an initial description into a proper name for a species. "Three-horned-face" is perhaps a nickname but not a proper name except

[18] "More important, the species-name may be passed from link to link, exactly as in the case of proper names, so that many who have seen little or no gold can still use the term. Their reference is determined by a causal (historical) chain, not by use of any items." *Naming and Necessity*, 139.

[19] Putnam, "The Meaning of 'Meaning'," 227-29, and "Meaning, Other People, and the World," 22-26.

[20] Putnam, "Meaning, Other People, and the World," 38.

[21] Robert Sokolowski, "Referring," *Review of Metaphysics* 42 (1988): 28.

thanks to the ostensive naming baptism: *That* three-horned-face creature shall be named *Three-Horned-Face*. Also, an initial description need not be encoded: *That* creature (the one I'm pointing to) shall be named *Kripkesaurus*. To register that referent will be to register something distinctive about the sampled skeleton although one could always go back to the sample to pick out another criterion. For example, the genus *Iguanodon* was named for its Iguana-like teeth, and when the first skeleton was discovered, its bony thumb was taken to be a horn on its nose. Had it been named for being a one-horned-face animal it would not affect the reference when it turned out there were no horns. When it comes to extinct kinds, ostension rather than description seems to be the relevant way of fixing the reference.

Kripke thinks that in most cases those who introduce a name through an initial description could have done so through ostension, but in some cases ostension is not possible. For the latter, he gives the example of naming Neptune:

> An even better case of determining the reference of a name by description, as opposed to ostension, is the discovery of the planet Neptune. Neptune was hypothesized as the planet which caused such and such discrepancies in the orbits of certain other planets. If Leverrier indeed gave the name 'Neptune' to the planet before it was ever seen, then he fixed the reference of 'Neptune' by means of the description just mentioned. At that time he was unable to see the planet even through a telescope.[22]

Here Kripke is partially mistaken. This is indeed not a case of ostension but nor is it a description; rather it is a *deferred* ostension. 'Neptune' would be fixed as *whatever it is that causes these gravitational effects*. There is no description of "Neptune" operative; rather, we point to the effects to refer to the hidden and undescribed cause.

Willard Van Orman Quine distinguished direct and deferred ostension in order to press further his inscrutability of reference thesis. In acquiring a foreign language de novo acts of ostension are ambiguous; how can we know how the speaker is carving up the ostended sample?

---

[22] *Naming and Necessity*, 79n33.

Is he pointing to rabbit, rabbit life stage, or undetached rabbit parts? Quine thought this could be settled through repeated ostensions and certain assumptions about individuation.[23] But he pointed to a trickier problem that arises in our own natural language, the problem of handling what he called deferred ostension, that is, an ostension in which we point to a sample to refer to something other than what is sampled.[24] Quine had two instances in mind. The first is when we point to something concrete to refer to something abstract. Here we might ostend the color "green" by pointing to grass. Green as such is not to be found in the realm of perceptual objects. Of course, we could ostend green in a concrete manner, as the green of perceptual objects, and then such an ostension, the *green* grass, would be direct. A second case of deferred ostension is when we point to a gauge to refer to the presence of gasoline in the car. Here the sample refers to something besides itself. Quine later returns to deferred ostension in order to account for the challenges of handling remote scientific objects that cannot be directly exhibited. How, he wonders, can we ever be sure that we have the same abstract object in mind thanks to deferred ostension? His answer is that we can settle the matter according to pragmatic but not metaphysical criteria: if no difference surfaces in our conversation about the topic, we'll regard it as the same.[25]

Following Quine, I would like to develop the notion of deferred ostension, but I will argue that two cases of deferred ostension, that of extinct and that of fictive kinds, present no greater challenge for reference than things that can be directly ostended. True, the problem of disambiguation is a perennial problem for ostension, both direct and deferred. How can the ostendee know what the ostender is ostending? Michael Devitt and Kim Sterelny call this the

---

[23] W. V. Quine, "Ontological Relativity," in *Ontological Relativity and Other Essays* (New York: Columbia University Press, 1969), 34.

[24] Quine, *Ontological Relativity*, 39-41, 45, 54

[25] W. V. Quine, *From Stimulus to Science* (Cambridge, MA: Harvard University Press, 1995), 75.

"*qua*-problem" for Kripke.[26] In direct ostension the sample is the same as the referent but there is still a question as to whether we are referring to the individual or the species, a part or a whole. "Look, a monarch butterfly," we say as one flutters past. We thereby refer to the sample itself but under a particular aspect that must be understood by the context. In deferred ostension the sample is not the referent but a sign of the referent. There are many overlapping ways in which it may be a sign. In the first place, we can point to something concrete and refer to something abstract. We might, for example, in the midst of a butterfly exhibit, point to the sample just in order to name the species itself: "Monarch butterfly." In the second, we can point to a specimen, or preserved vestige of the living original, in order to refer to something else, namely the living original. "That's a monarch butterfly," we say as we point to the carcass of one pinned to a display board. In the third, we can point to an illustration not in order to name the illustration but in order to name the species illustrated. Of course, the referent is not an illustration and the illustration, as illustration, differs in kind from what is illustrated. That's a picture of a butterfly but (obviously) not itself a butterfly.

Now, the fact that we can only point to dinosaurs in books and in museums is in this respect a help in their identification. These venues constrain the ambiguity by giving an expectation that dinosaur species are being exhibited rather than the genus dinosaur per se or an individual instance of a species. In pictures, the two-dimensionality of an image and the focus of the artist make it a lot easier for joint attention to occur successfully. The child can easily tell which dinosaur we are pointing out because there is no gap between our index finger and the depicted animal. Moreover, an image contains an implicit ostension less ambiguous than an ordinary one, for instead of having to follow someone's direction of movement toward

[26] *Language and Reality: An Introduction to the Philosophy of Language*, 2d ed. (Cambridge, MA: The MIT Press, 1999), 90-93.

something else, an image allows us to directly occupy the point of view of the other to see what they see; the image retains their direction of gaze and retains their foreground and background. In that respect, an image requires less work on the part of the ostendee than a perceptual pointing-out and, requiring less work, it is less ambiguous. In this way, the specific problem with ineluctably absent referents is not the qua-problem. It is instead a problem with the sampled referent, namely its non-existence and therefore ineluctable absence. Kripke's account of natural kinds has the referent instantiated by the sample: "I believe that, in general, terms for natural kinds (e.g., animal, vegetable, and chemical kinds) get their reference fixed in this way; the substance is defined as the kind instantiated by (almost all of) a given sample."[27] But can this view account for radically absent species? How is the dinosaur or dragon *instantiated* in the sample?

III

"*Ceci n'est pas une pipe*," wrote René Magritte on his famous painting of a pipe, which he entitled, "The Treachery of Images." His painting calls attention to the fact that an image is a representation and so is not that which it represents. It is not a pipe but a picture of a pipe. In a more radical way, the placard next to the fossils at a natural history museum could say, "This is not a dinosaur," for that which is displayed at a natural history museum is not a dinosaur nor is it the remains of a dinosaur. It is just an artistic arrangement of naturally occurring stone copies of dinosaur bones. A skeleton is not an animal or a part of an animal. Rather it is a vestige made from the decomposition of an animal's body. Discovered dinosaur skeletons are not made of bone, of course, but fossils of bones, and a fossil seems to be a natural way of making an imitation of something. To complicate things further, few complete fossilized skeletons are

[27] *Naming and Necessity*, 135-36.

found. The ones on display in museums are typically composites of many skeletons and even include artistic renditions for missing pieces.

Consider Kripke's toy duck, which he introduces to name a fallacy for philosophers of language whereby they try to make standard what is not a standard case. In this context, I am not interested in the fallacy but in the example. At a toy store, a child asks his parent, "Is that a goose?" only to receive the reply, "No, that's a duck." Kripke puzzles over the nature of this reply, for of course a toy duck is not a duck, and yet he thinks: "No dictionary should include an entry under 'duck' with a sense in which ducks may be made of plastic and not be living creatures at all."[28] Kripke is rightly skeptical of the way Austin handles such cases, namely by suggesting we let the "toy" slip out of the phrase "toy duck" in order to avoid the extra word.[29] Kripke suggests instead that when one points to a picture of a lion and says, "That's a lion," one is pointing to "the animal in the picture," and not, one might say, this physical thing. Though Kripke does not complete the comparison, a toy duck is similar to a picture of a duck. When we say "That's a duck," we have in mind the animal in the picture rather than the picture as a physical thing. I might put it this way: for identification purposes, we can say that the toy duck is a duck; that's what it depicts. For ontological purposes, when we talk about what ontological kind it is, we would say that it is a toy and not a duck. To apply Kripke's example to the present case: what if all we had were toy ducks, if all the real ducks suddenly died out? For when it comes to fictional characters, all we have are toy ducks, and when it comes to extinct species, all we have, fossils, are basically toy ducks: they represent something they are not.[30]

---

[28] "Unrestricted Exportation and Some Morals for the Philosophy of Language," in *Philosophical Troubles: Collected Papers*, vol. 1 (Oxford: Oxford University Press, 2011), 346.

[29] "Unrestricted Exportation," 346

[30] In *Reference and Existence: The John Locke Lectures*, Kripke says that the fictional character, like a toy duck, really is a thing even though it is not really the thing it depicts: "But just as a toy duck isn't a real duck—though of course that doesn't mean that the toy duck doesn't really exist—so I want to say that a fictional person

How can a toy duck, motionless, silent, and made of plastic, be taken to be a duck, which is something swimming with movement, sounds, and manifestly non-plastic in constitution? An act of interpretation takes the toy duck as a likeness of a duck, whatever differences obtain. It is identified as a duck in virtue of that likeness, not in virtue of its physical makeup. The act of interpretation separates off the image, duck, from the bearer of the image, toy. We can perform such an interpretation even if we've never seen a duck in person, because we have all seen animals of some kind and very likely birds. By the same token, the fossil requires an act of interpretation and imagination supported by an analogy with our present experience of living beings. The artist Benjamin Waterhouse Hawkins, who mounted the first dinosaur skeleton and created the first life-sized reconstructions, envisioned them as large lizards, but now they are imagined to be (mostly) featherless birds. Tails no longer drag behind; now they are held aloft. Or consider a specialized case. The *Spinosaurus*, which is an even bigger predator than the T. rex, is now thought to be an aquatic animal, and a recent display of the fifty-foot mounted skeleton portrays it accordingly: it is arranged more like a crocodile and a sea cow than a bird.[31] We construe fossils in light of our experiences of living creatures, such as lizards, birds, and crocodiles. More basically, we also make reference to living beings to make sense of what fossilized bones are. In 90 million years, perhaps no living beings will exist on Earth. Suppose a very different, alien intelligence that lacks anything like a skeleton visits and discovers fossils of dinosaurs. Without reference to living beings with bones, these invertebrates would not be able to make sense of the fossils. The analogy with living animals allows us to see that fossils are not just curiously shaped stones, but the residue of some extinct animal. Despite the necessity of this

---

isn't a 'real' person—that that isn't to say that, in and of himself, he doesn't really exist, or isn't real, in the sense of 'doesn't exist.'" (Oxford: Oxford University Press, 2013), 80-1.

[31] Tom Mueller, "Mister Big: Move over, T. rex: The biggest, baddest carnivore to ever walk the Earth is Spinosaurus," *National Geographic* 226, no. 4 (October 2014): 116-133.

interpretive mediation, we want to say that the fossils do support our reference, so that we can in fact target the extinct natural kind in our reference.

For dinosaurs, we have access to the original living creature, which serves as the example for the species, only thanks to three generations of imitations. There is first the skeleton of the animal, formed by the death of the organism and the decay of the flesh; there is second the fossilized remains of the skeleton, formed by mineral-rich water entering into the open spaces in the bone before the bone itself decays; there is third the excavation, reconstruction, and rearrangement of fossilized remains for a museum. Three generations of imitation, then, stand in between us and the dinosaur original.

Fig. 1. The Origin of the Dinosaur Sample

Original		$Imitation_1$		$Imitation_2$		$Imitation_3$
Living animal	→	Skeleton of the dead animal	→	Fossilized remains	→	Reconstruction of shape for display

The puzzle of establishing a reference in this case can be heighted by recalling Plato's reflection on imitation in Book X of the *Republic*. His quarrel with the poetic view of the human good likewise involves the analysis of several degrees of imitation. The poetic imitation ends up being separated from the original in such a way that it presents an appearance of the original without having conveyed the being of the original. As an example, Plato spells out the loss of being from *bedness* to a *bed* to a *picture* of a bed. The painter or storyteller need not know how to make a bed or even what a bed is; he need only know what it plausibly looks like from a given angle. Plato's argument against poetry is that the poetic art is limited to appearances of virtue without corresponding knowledge of what it is or how it is to be brought about in the human soul. The imitative degrees of removal dilute the truth of the original: "Then imitation is far

removed from the truth, for it touches only a small part of each thing and a part that is itself only an image."[32]

Applying a version of this Platonic critique to our present inquiry, we can ask: "How can a reference to the extinct original be established via an imitation thrice removed from it?" Now, our interest differs from Plato in that what we are trying to account for is not knowledge but identity, and in this respect the image does indeed retain something of the thing's identity. In the case of dinosaurs, accessible to us only via their fossils, we can establish a reference because something of the thing's identity carries through the successive degrees of imitation. Some essential property, of the kind Kripke says is necessary for extending reference from an original sample to a new item, is retained by the imitative shape. Wittgenstein, in fact, highlights the shape of the sample as involved in the target of the ostensive act.[33] Even though the fossil or the artistic image is not the dinosaur or even the carcass of a dinosaur it can represent the dinosaur in virtue of its specific shape. We can ostend a T. rex, because the fossilized reconstruction carries over something of the characteristic shape that distinguishes the T. rex from other sorts of creatures.

Fig. 2. Ostending Extinct Kinds Via Imitations

$Imitation_3$		$Imitation_2$		$Imitation_1$		Absent Example
Reconstructed shape on display	→	Fossilized remains	→	Skeleton of the extinct animal	→	Extinct animal

Now, this appeal to the importance of shape may be puzzling, for shape really seems superficial. Descartes's famous wax thought experiment in the *Second Meditation* urges us to go

[32] Plato, *Republic*, trans. G.M.A. Grube, rev. C.D.C. Reeve, in *Plato: Complete Works*, ed. John M. Cooper (Indianapolis: Hackett Publishing Co., 1997), 598b.

[33] "An important part of the training will consist in the teacher's pointing to the objects, directing the child's attention to them, and at the same time uttering a word; for instance, the word 'slab' as he points to that shape." Wittgenstein, *Philosophical Investigations*, 2d ed. trans. G. E. M. Anscombe (Oxford: Blackwell Publishers, 1958), §6.

beyond shape to penetrate to the substance. Shape, it is true, is not the same as the essence, but it is a property, and the characteristic shape is crucial for establishing the identification of a thing.[34] As noted above, Dupré details cases of species overlap and accordingly denies that overt shape or covert structure provides sufficient criteria for sorting all species, but these odd cases hardly serve to relativize the general importance of overt shape or covert structure in ordinary cases. For natural kinds, one seeks a morphological rather than an ideal essence, the sort of thing one can obtain in mathematics.[35] A Triceratops has a three-horned face which distinguishes it from, among other things, the thirteen-horned Kosmoceratops or the two-horned Rhinoceros; the characteristic shape of a thing allows us to identify it; having identified it, we can then proceed to inquire into it and attain a more penetrating grasp of what it is. The shape affords the initial identification that sets up the investigation. Now, when it comes to living samples, shape is not the only thing; color is important as is the characteristic activities of the creature. But when it comes to ineluctably absent referents established through natural vestiges, it is the characteristic shape discernible in the fossils that carries over and affords the possibility of establishing a rigid designation.[36]

Can the retained shape of the fossil really support the reference? A visitor in the early 1980s to the Natural History Museum in New York was no doubt amazed at the mighty skeleton of the Apatosaurus on display. But today we know that the dinosaur on display was not a single dinosaur species. Instead it was a skeleton composed of heterogeneous parts from at least two species of dinosaurs. The head displayed on the New York Apatosaurus from 1905 until the

---

[34] Robert Sokolowski, *Phenomenology of the Human Person* (New York: Cambridge University Press, 2008), 108-12.

[35] On the difference between morphological and ideal essences, see Robert Sokolowski, "Exact Science and the World in which We Live," in *Pictures, Quotations, and Distinctions: Fourteen Essays in Phenomenology* (Notre Dame, IN: University of Notre Dame, 1992), 159.

[36] One may institute a deferred ostension even without a shape: that which caused this branch to break. Was it a badger or a bear or just the wind? One knows not *what* one refers to, only *whom*. The retained shape of the effect allows us to refer an effect not just to a singular cause but to a specific kind.

1990s was from a different species, Camarasaurus. The head has now been replaced with the cast of a head from the Carnegie Museum in Pittsburgh that was found near the body of an Apatosaurus. Four different specimens were used for the original body and a fifth for the head, so the skeleton on display is a composite formed from five different finds.[37] When we point to the skeleton we name the species that once was, not the composite fossilized skeleton-likeness that now is. Despite such difficulties, we can in fact refer to the species of dinosaurs. A visitor to the Natural History Museum in New York can point to the sauropod in the Hall of Saurischian Dinosaurs and say, "This is an Apatosaurus now with the correct head." The reference from the 1980's, even though it targeted a representation that included two species, took its bearing from the unusual body to which the head was subsequently matched; the previous head, in other words, can be seen as wrong because the reference targeted the shape of the body as a whole. Curators did not replace the body with that of a Camarasaurus; they replaced the Camarasaurus head with what they take to be an Apatosaurus head. The characteristic shape of the whole allows us to refer meaningfully to the now extinct natural kind. The reference was fixed by the majority of what was sampled, just as in naming any species we fix the reference in view of the majority of what is sampled. We can fix references to extinct natural kinds through the superficiality of fossils, because we ordinarily refer to perceived things through the superficiality of accidental forms that give us purchase on identifying characteristics: seeing things here and now from this vantage point while things do this or that behavior; from the host of accidentality we come to target the identity at play through it all. The accidentality of shape, including skeletal shape, like other accidental features, can be used to identify what something is.

[37] "A Dinosaur by Any Other Name," News and Blogs of the American Museum of Natural History, posted August 13, 2012, http://www.amnh.org/explore/news-blogs/on-exhibit-posts/a-dinosaur-by-any-other-name, accessed December 7, 2022.

When it comes to dinosaurs, skeletal shape (and the occasional skin impression) is all we have; nonetheless, shape works and it even warrants shifts in reference. For example, the name "Brontosaurus" was given to a specimen belonging to a species that had already been named earlier as "Apatosaurus." Given the rule of priority in scientific nomenclature, the technically correct term for the dinosaur with that characteristic shape is "Apatosaurus." It is not the case that "Brontosaurus" never existed; it is the case that "Brontosaurus" is an alias for Apatosaurus and, given the cannons of taxonomy, not preferred to the earlier, Apatosaurus.[38] However, a recent study argues that the Apatosaurus and Brontosaurus are not identical after all; among other things, the Apatosaurus has a significantly stouter neck. Therefore, the new scientific consensus is that they do not refer to the same extinct natural kind.[39] The characteristic shape allows us to distinguish and relate the two ineluctably absent species.

IV

What about fictive kinds, which arise thanks to a picture or an initial description: Does the above account of extinct kinds illumine how imitation can support reference in this domain? Consider the *Hobbit* in which J. R. R. Tolkien introduces the fictive kind Hobbit with the opening line: "In a hole in the ground there lived a hobbit." Several paragraphs later he describes this curious species: Hobbits are short, beardless, shoeless, ordinary, and have a remarkable appetite. In *The Lord of the Rings*, Tolkien points out that living in holes is not essential to being a hobbit; only a few of the hobbits in fact live in such holes any more, most having built houses

[38] Stephen Jay Gould commented, "I regret to report, and shall now document, that the issue of names could hardly be more trivial—for the dispute is only about names, not about things." He thinks that, all things considered, the popular consensus in favor of Brontosaurus ought to win out over the strict application of priority in this case. *Bully for Brontosaurus: Reflections in Natural History* (New York: W. W. Norton & Company, 1991), 86.

[39] Ewen Callaway, "Beloved *Brontosaurus* makes a comeback: Jurassic giant's taxonomic status is restored," *Nature*, 7 April 2015, https://www.nature.com/news/beloved-brontosaurus-makes-a-comeback-1.17257, accessed December 7, 2022.

due to the shortage of good hillsides for holes. Nonetheless, hobbits remain short, beardless, shoeless, ordinary, and perpetually hungry. Of course, there could be something else that had these characteristics and was not a hobbit. These are indicative characteristics rather than adequate ones. The first edition of the *Hobbit* also included Tolkien's illustration of Bilbo the Hobbit in his hobbit hole. Hence readers encountered the fictive species, Hobbit, by means of an initial ostension fixing the reference (in the hole there is a hobbit), a clarifying initial description (having such and such attributes), and a picture. As with extinct kinds, so for fictive kinds: what we point to is not that to which we refer. A hobbit is not a two-dimensional being in a picture; rather, "hobbit" refers to a flesh and blood person, even though these have never existed. The unique shape of the creature is one of the things that distinguishes it from all else. Analogy with perceived animals invests the depiction with its sense of substantiality. The child sees a picture of a hobbit in a book and understands it to be a depiction of a creature, a living being, rather than of nothing, because it resembles the creatures it does experience.

The movie *Star Wars* (1977) presented the species Wookiee for the first time. That film afforded the occasion for people to register the reference to the particular kind of species of which Chewbacca was the sample. In that world, wookiees really exist; were we in that world, we could ostend a wookiee in the flesh. But we cannot be in that world, since the world is a realm of mere appearance; it is a fictive world. Therefore, we can encounter imitations of a wookiee but never a wookiee, and we understand it on analogy with those things we do encounter; its behavior resonates with the behavior of animals we have perceived; it therefore genuinely appears to be an animal. But it is different from a chimpanzee or a bear in its human-like upright posture, and it is different from human beings in being covered with thick hair. Now, a visit to a theme park might involve seeing someone dressed in a wookiee costume. Even

though we can meet with imitations of wookiees but never a wookiee we can understand these imitations as imitations of wookiees thanks to the characteristic shape and behavior on display. Even though imitations fall short of the species alive in *Star Wars*, we can understand their reference thanks to the characteristic shape (and other incidental features) that they present. Through degrees of mediation, something of the specific shape of the fictive kind carries over affording the possibility of identifying the image as an imitation of the original.

Fig. 3. Ostending Artificial Kinds Via Imitations

$Imitation_3$		$Imitation_2$		$Imitation_1$		Absent Example
Halloween costume	→	Character on the screen	→	Costumed character on set	→	Fictional animal

In the case of ineluctably absent things, it seems the imitative sample cannot serve as an exemplar, because it is not an example. However, an act of interpretation takes the imitated shape as an imitation of an example analogically understood and thus as the basis for treating that absent example as an exemplar. For ineluctably absent referents, then, what we point to is the shape that carries over through the imitations.

V

Both extinct species and fictive species can be ostended only via imitations of absent originals. Neither dinosaurs nor dragons can be ostended in the flesh. What is the difference between the deferred ostensions of extinct species and fictive species? Kripke broaches this topic in *Naming and Necessity* with the case of unicorns: “Further, I think that even if archeologists or geologists were to discover tomorrow some fossils conclusively showing the existence of animals in the past satisfying everything we know about unicorns from the myth of the unicorn,

that would not show that there were unicorns."[40] To separate off unicorns from what can be unearthed by paleontology, he advances two intertwined theses: *metaphysically*, unicorns could not possibly have existed; *epistemologically*, no possible paleontological discovery could establish the previous existence of unicorns. Now, Kripke's aim is not quite my own insofar as he here wants to distinguish unicorns from non-extinct animals. And yet, what he does say is directly applicable to my set of concerns. Therefore, it is worth tarrying with his distinction a bit.

Kripke defends the metaphysical thesis by distinguishing actuality and mythology: "Just as tigers are an actual species, so the unicorns are a mythical species." As the appearance of tigers is not sufficient for establishing the essence of a tiger (there could be a non-tiger outwardly indistinguishable from a tiger but inwardly constituted of very different parts: "fool's tiger"), so the appearance of a unicorn is not sufficient for establishing the essence of a unicorn. But when it comes to myth we are limited to appearances alone. Therefore, no discovery could ever establish the existence of a mythical creature: "Now there is no actual species of unicorns, and regarding the several distinction hypothetical species, with different internal structures (some reptile, some mammalian, some amphibious), which would have the external appearances postulated to hold of unicorns in the myth of the unicorn, one cannot say which of these distinct mythical species would have *been* the unicorns."[41] He defends the epistemological thesis by pointing out that even if we were to discover creatures with the same appearance as unicorns that would not establish that these creatures were unicorns. There would have to be, in addition to the same appearance, some "historical connection" between the myth and creature or it would be a mere "coincidence" and hence not the same creature.[42]

---

[40] *Naming and Necessity*, 24.
[41] *Naming and Necessity*, 156-7; see also *Reference and Existence*, 47.
[42] *Naming and Necessity*, 157. See also *Reference and Existence*, 48.

Now, Kripke endeavors to develop these themes in his lectures, *Reference and Existence*, but his remarks, I find, do not go far enough. He distinguishes myth from fact in terms of what he terms "pretense."[43] A fictive name such as unicorn is a "pretended name of a species" and "doesn't really *designate a species*."[44] The problem with this turn to a cognitive operation, pretense, is that Kripke misunderstands its scope. Pretense applies to the work as a whole rather than to individual items in the work. As Nathan Salmon points out, it is not for nothing that actors are said to play a "part" in a play; the fictional character is what it is in light of the whole of which it is but a part.[45] Pretense sets up the fictive world and then the author endeavors to faithfully describe what shows up there.

To shed light on the global character of pretense, it is helpful to invoke a notion worked out by fantasy writer Tolkien called "sub-creation."[46] According to Tolkien, the writer "makes a Secondary World which your mind can enter. Inside it, what he relates is 'true': it accords with the laws of that world. You therefore believe it, while you are, as it were, inside."[47] Indeed, Tolkien describes the advent of one of his fictive kinds, the tree-like shepherds of trees, without appeal to pretense:

> Take the Ents, for instance. I did not consciously invent them at all. The chapter called "Treebeard", from Treebeard's first remark on p. 66, was written off more or less as it stands, with an effect on my self (except for labor pains) almost like reading some one else's work. … I was not inventing but reporting (imperfectly) and had at times to wait till "what really happened" came through.[48]

---

[43] *Reference and Existence*, 24.
[44] *Reference and Existence*, 52.
[45] "Nonexistence," *Nous* 32 (1998): 301.
[46] "On Fairy-stories," in *The Tolkien Reader* (New York: Ballantine Books, 1966), 49.
[47] "On Fairy-stories," 60.
[48] *The Letters of J.R.R. Tolkien*, 211-2. I have come across a passage in Flannery O'Connor in which she says that for the writer "the concrete is his medium" and adds, "The writer learns, perhaps more quickly than the reader, to be humble in the face of what-is." "The Church and the Fiction Writer," in *Collected Works* (New York: The Library of America, 1988), 808.

Nor does the universal scope of pretense hold merely for the writer but for the reader or viewer as well. To begin reading a book or viewing a film is to enter into the world of pretense, a world in which anything that happens is taken to be true; the reader of Tolkien's *Lord of the Rings*, for example, need not say to himself when he gets to the parts about ents, "Now, here's a bit of pretense." Only in a B-rated film do we have to willfully suspend disbelief at critical junctures; in a good story, we accept all of it *within the world as reported*. Hence one failure with Kripke's account is a misunderstanding regarding the scope of pretense. It applies to the story as a whole rather than to any particular aspect of the story. Put differently, Tolkien really was reporting what was true about the ents, but he did so within the context of sub-creation, a world of pretense.

Kripke says that even though fictional entities do not exist concretely they do exist abstractly; this abstract existence supports talk *about* the fictive characters.[49] He provides the analogy with a nation, which genuinely exists but exists as an abstract entity. He does not, however, note the difference between fictional entities and nations. What a depicted or named dragon depicts or names is not an abstract entity analogous to a nation; what a depicted or named dragon depicts or names is a concrete entity analogous to a great white shark. The fictional dragon is as concrete as entities come. In the story, people can be killed by them and they in turn can be slain. And yet, obviously, there is a difference between dragons and sharks; it's just not to be found where Kripke is looking. The problem is that Kripke wrongly takes the fictive nature of the fictional character to be a feature of the fictional character itself. But it isn't. The dragons are just as real as the horses in the story. Neither is abstract: they can kill or be killed. There's no

[49] "A fictional character, then, is an abstract entity. It exists in virtue of more concrete activities of telling stories, writing plays, writing novels, and so on, under criteria which I won't try to state precisely, but which should have their own intuitive character. It is an abstract entity which exists in virtue of more concrete activities the same way that a nation is an abstract entity which exists in virtue of concrete relations between people." *Reference and Existence*, 73.

difference *in that world* between dragons and horses, one being real in the non-fictive world and one not being so real. The difference is extrinsic to the fictional entities themselves and arises only when we switch back to a point of view outside of the story and compare what shows up in the fictive world with what shows up in the primary world. The kind of thing embedded in a secondary world is a merely apparent entity and the thing that shows up in the primary world is a real entity. The merely apparent entity is not abstract but concrete; as merely apparent it can only be found in a secondary world. Even Salmon, who rightly criticizes Kripke's handling of fiction, still subscribes to the view that the fictional entity is abstract. He says that the character Hamlet, for example, is "not a human being at all but a part of fiction."[50] I say, by contrast, that Hamlet is indeed a human being (that's the kind of being this character really is) but one that is merely apparent, bound to the secondary realm of fiction.

One clue for making sense of the shift from intra- to extra-fiction is to pay attention to an offhand remark Kripke makes regarding treating a toy-duck as a Duck, namely, that it likely involves a change "in context."[51] Within the play, this toy-duck counts as a Duck rather than a toy-duck, but outside of this play no one would deny that it was a toy-duck rather than a real Duck. Hence the context is crucial and if context is crucial that means that the fictive character of a fictional character is not a function of the fictive character itself but a function of the fictive character relative to the domain it inhabits, a function I am calling embedding. Kripke develops this point somewhat in the shift from talking about a character inside and outside of a play: "The name 'Hamlet' as used in the story is not purporting to refer to a fictional character, it is

[50] "Nonexistence," 302.
[51] *Reference and Existence*, 149n12.

purporting to refer to a person; and only when we speak *outside* the story can we say that no such person exists."[52]

The shift from intra- to extra-fiction is not merely linguistic and narrowly contextual, but reflects a fundamental difference in being between the domain of fiction and the world of perception. In the world of perception, each of us can look for ourselves and see what is there to be seen, but in the world of fiction, we can only see through the eyes of the author, illustrator, or filmmaker. Our vantage point is not our own but is instead a kind of participation in the vantage point of the narrator. That we can only access the fictive world thanks to the mediation of an author, illustrator, or filmmaker means that what shows up in that world differs in kind from the world that shows up to each of us through perception; it differs fundamentally in being. Plato expressed it well in the difference between the lower two divisions of the divided line, the difference between perceptual things and images of perceptual things. Fictional entities cannot escape the realm of images of perceptual things; they cannot lose the mediation of images in order to be directly present as perceptual things. Another way to think of this difference is to press Kripke's insight that fictional kinds are tied to phenomenological properties alone. Why is that? Because we only have access to how things appear to the author, illustrator, or filmmaker; there is nothing behind or outside this appearance.

Now it is true that the creators of the fictive world might see themselves as in effect reporting rather than confecting what is there. But because we only access the world through that report, the world is as it is in virtue of that report, not in virtue of properties it has independent of the report. That is, the direction of fit is reversed. Due to the pure phenomenality of this world, the world of fiction is a world drained of genuine causal properties. But of course fiction narrates fictional entities exercising causal properties. The wookiees are attacking a company of storm

[52] "Vacuous Names and Fictional Entities," 64-5.

troopers. But in the realm of fiction, there cannot possibly be anything more than *merely apparent* causal properties. In fiction, the metaphysics of occasionalism necessarily obtains. *Y* follows *X* not in virtue of *X*'s causal properties but in virtue of the order imposed by the author of the story. There are no real causal powers in a story; all causality comes from outside the world of the story. To give a related example: various people have claimed that in the movie *Titanic* the character played by Leonardo DiCaprio need not have died for there was room for him on the wooden raft that saved the life of the character played by Kate Winslet. At first the director and writer James Cameron responded by pointing out that there was not enough buoyancy for two people, but MythBusters did experiments to disprove this contention. Cameron then said, "I think you guys are missing the point. The script says Jack dies. He has to die. So maybe we screwed up and the board should have been a little tiny bit smaller, but the dude's goin' down."[53] For our present purposes, the key insight is that things happen in a secondary world in virtue of what the writer says (or the story demands); they don't happen in virtue of the causal properties of the props. In a story, there is no physical necessity only teleological necessity. An author is not constrained by the workings of nature, but by the needs of the story.

In *The Lord of the Rings*, the Ent Treebeard bemoans the loss of the entwives. Where did they go? None of the male ents remember. Contrast this to the cause of the extinction of dinosaurs. Did they die out due to a meteorite or something else? We don't know. Now, in the book, there is no more information available to us about the loss of the entwives, but one could imagine a Tolkien descendent discovering a hidden notebook, entitled "What Became of the Entwives."[54] And then we would know and again we would know in virtue of Tolkien's telling

[53] See Yanan Wang, "Even Kate Winslet thinks Rose let Jack die in 'Titanic', *The Washington Post*, Feb. 3, 2016.

[54] In a letter I have since come across, Tolkien does in fact give indications of the cause of their demise. See *The Letters of J.R.R. Tolkien*, 179.

us. Or another author could do for Tolkien what Virgil did to Homer: complete the story as part of another tale. But that does not change that there is no fact of the matter we can search out and discover for ourselves. When it comes to dinosaurs, however, we can continue on our own to inquire and debate the available evidence of the extinction of the dinosaurs; we don't depend on the witness of others. Suppose we used all available funds to build a single-use time machine and sent back one scientist to the time of dinosaur extinction to determine the cause of their demise. After an extended stay and study, she returns to make a report: they died out due to an infectious disease. How would this situation be different than the Tolkien papers telling us what happened to the entwives? What happened to the entwives is true in virtue of Tolkien's telling us. What happened to the dinosaurs is not true in virtue of the scientist's telling us. She might be wrong and if she is right she is right in virtue of having properly gathered and interpreted the evidence rather than in virtue of telling a tale.

Given the above analysis of fiction, how can we distinguish the deferred ostensions of fictive kinds and extinct natural kinds, dragons and dinosaurs? Tolkien insightfully observes that because we must imagine the original, extinct natural kinds "cannot avoid a gleam of fantasy."[55] Nonetheless, fictive and natural kinds are embedded within different realms of presentation. The real causality of extinct natural kinds, which as it were echo in their fossilized remains, embeds the extinct natural kinds within the primary domain of perception. The merely apparent causality of fictive kinds is such that it remains embedded in the secondary world. Causality, then, turns out to be the key to distinguishing two classes of radically absent referents: extinct natural kinds and fictive kinds. To be mythical means to belong to a different domain of reference constituted by mere appearance enjoying no causal properties. To be real means to belong to a different domain of reference constituted not only by appearance but also enjoying causal properties. And

[55] "On Fairy-stories," 94.

some of the things that are real might now, like the dinosaurs, be consigned to the realm of mere appearance, even though something of their causal properties carries through in the fossil. There is this difference in experiential domains: one of mere appearance confected by artists and one of experience confected by the causal properties of things.[56]

We can wonder why some creature in the primary world is the way it is. For example, we can puzzle over why the *Stegosaurus* has massive plates on its back, and when we do so we think there is a good chance that this conspicuous feature of its body had some causal impact on its being. But it doesn't make sense to ask why the cyclopes in the *Odyssey* have one eye. They have one eye because, well, they have one eye. That is the appearance the writer or artist assigned it. One might give an aesthetic justification of fittingness, perhaps, but no causal account (in the way, say, one might explain that humans and other animals have two eyes because having two eyes affords the possibility of depth perception or because some accidental events in their natural history led to the advent of two eyes). Mythical creatures in books and films are not causally in interaction with us and their bodies do not have causal properties that can be discerned, because they are mere appearances of things rather than things themselves.

Though it seems obvious to us that fossils are caused to be by the remains of living specimens, for several hundred years the origin of fossils was debated by thoughtful people. Here is the fossil of an aquatic creature inside a rock hundreds of miles from the sea: perhaps there is some power in the earth that generates likenesses of things, like the way clouds can take on the shape of a rabbit, for example. According to Kyle Stanford, it was not until the process of

[56] By appealing to causality in this context, I mean something other than Kripke does when he occasionally refers to his own account of naming as a causal theory. For, as Evans articulates it, Kripke sees a name arise in a naming baptism, which *causes* the name to be transmitted to future users of the name through a historical process. "The Causal Theory of Names," in *Collected Papers* (Oxford: Clarendon Press, 1996), 18. It is therefore the historical process rather than a causal chain that is decisive. See Hacking, "Putnam's Theory," 7. There are two kinds of ineluctably absent referents: things that are caused but lack genuine causal properties (fictive kinds) and things that bear genuine causal properties (extinct natural kinds). Both fictive and extinct natural kinds are, on my view, established according to Kripke's "causal-historical" account of ostension.

fossilization was imitated that the fossilization explanation won the day.[57] The difference between an extinct and a fictive kind is not a difference settled by the deferred ostension but by extrinsic considerations. For the causal chain of reference can be communicated whether the naming baptism happened regarding a perceptual or an imaginative sample.

Suppose for example that unbeknownst to us dinosaur fossils were produced by alien artisans. Instead of fossilization they all came to be by artistic imitation. In one scenario, they sculpted in order to capture the shape of the bones of really existing dinosaurs they observed on earth, dinosaurs that have since disappeared without a trace. In another, they sculpted from their imaginations alone. Or less fancifully suppose our only access to extinct species came from prehistoric cave paintings. We could still refer to these extinct species even though the sample was an artificial and not natural likeness. Of course, we could not *know* whether the prehistoric artistic imitation picked out an extinct or a fictive kind. Our understanding of fossilization is crucial for sorting ineluctably absent referents into extinct or fictive kinds. But it does not as it were bear the reference. For that all that is needed is a characteristic likeness, and it makes no difference whether it is produced by hand or by a series of naturally occurring processes such as fossilization.

Absent insight into fossilization, dinosaurs and other extinct species have the same status as dragons and mythical creatures (they would exist only as appearances). It is thus necessary to distinguish two kinds of imitations: *depictions* and *reflections*. The likeness of depiction is made by something other than the depicted without preserving a direct causal linkage. The likeness of reflection is made by the reflected itself or its vestiges thereby preserving a direct causal linkage.

---

[57] "Getting Real: The Hypothesis of Organic Fossil Origins," *Modern Schoolman: A Quarterly Journal of Philosophy* 87 (2010): 219-43.

Plato again seems to have grasped this difference. In the allegory of the cave, the shadows cast by puppets and the artificial light in the cave are what I am calling depictions; the natural reflections of things in water outside the cave are what I am calling reflections. I am invoking this difference, not to talk about Plato's realm of the forms, but to register the important distinction Plato saw in the visible world between artificial and natural imitations. Consider the difference between a photograph and a painting. A photograph is an imitation that certifies the existence of that which is imitated because of the process by which it comes about: the light scattered by the depicted is what causes the image to form. A painting is an imitation that does not certify the existence of that which is imitated because of the process by which it comes about: the painter paints either things seen or only imagined; it makes no difference. Again, my concern is metaphysical rather than epistemological: we might take something as a photo when it is not, but that is not the issue. A photo, as a photo, embeds its subject within the world of perception. A fabricated image, as such, does not decide where the depicted reference is embedded. A fossil is more like a photo than a fabricated image. It is a reflection rather than a depiction.

The first class of ineluctably absent referents, dinosaurs and other extinct species, includes things that were once found in the primary world, and we can know this because we find in this world naturally formed imitations of their characteristic shapes. Though we must imagine them to make sense of them, their naturally caused reflections embed them firmly in the world in which we can or could have experienced them in the flesh. They are not embedded in a sub-creation. The second class of ineluctably absent referents, fictional kinds, includes things that are not to be found in the flesh but only via depictions such as literature, film, illustration, or

the stage. Such things have an identity and an intelligibility of their own, which can invite contemplation and bring delight. But they belong to a world that is presentationally different.

The discrete beginning and end of the work of fiction introduces us into the presentational shift that establishes the secondary world. A window in the primary world opens up allowing us to see into the secondary world without being able to be in it. We are privy to what goes on but we are never an actor in the story; we are not a character among characters. The primary world, by contrast, is one in which each of us can look about. We can directly perceive and experience things. They can be strange and wondrous, but we do not ask whether they are real. For example, the okapi is an odd figure, half giraffe and half zebra. In a story, such a creature might sound mythical; at the zoo, such a juxtaposition evidently belongs to the primary world. The difference between primary and secondary worlds is not that one is immediate and the other mediate, for it is possible to refer to many items of the primary world through mediation. Someone can speak of seeing an okapi or point to a photograph or dress up in an okapi costume, etc. The difference is that while the items that belong to the primary world can be or could have been immediately given, the items that belong to a secondary one must always be given through some kind of mediation or imitation.

A further difference thereby presents itself. Whereas the chain of imitations for extinct kinds terminates in an absent cause, which constrains it, the chain of imitations for fictive kinds remains open, ending in something that is not ultimate, for it is but itself an imitation. The reflection grounds the reference in the original, however obscurely, but the depiction, by contrast, stands in reserve regarding the original.[58] Is a unicorn or an elf the same fictive kind

[58] The temptation may be to think that the original is whatever was in the mind of the author, yet whatever it was that was in the mind of the author is exactly what was expressed or depicted; hence there is nothing behind or further back to get to than the originative description or depiction itself. Ents are not creatures in Tolkien's head; they are creatures in Middle Earth.

when instantiated in different stories? What about when instantiated in stories by different authors? Can a single term name a single possible fictive kind species? There can be a debate about the reference of this or that fossil only because there is a definitive truth of the matter; but when it comes to instances of fictive kinds, there is no definitive truth of the matter: instead there is a rich cultural inheritance, inviting both fidelity and innovation, and much leeway in interpretation.

VI

About extinct natural kinds and fictive kinds, we say the same thing: They don't exist. However, Kripke, like van Inwagen, holds that the everyday judgment that unicorns do not exist is mistaken.[59] They do exist as abstract entities that come about through creative pretense. They exist just as surely as the works that mention them and the authors that write about them: "The fictional character Huckleberry Finn definitely exists, just as the novel does."[60] And yet there is that stubborn fact of everyday linguistic usage, then when the child asks, "Do unicorns exist?" we think that the correct answer is, of course, "No, they do not. They are just pretend." The fact that Kripke cannot accommodate this natural use of existence is puzzling. I propose making sense of the controversy by distinguishing referential identity and existence and by recognizing that existence and non-existence is a question of embedding a referent in either the primary or a secondary world. The natural home of everyday life and speech is the primary realm. Hence, when we speak without qualification, we say, "Unicorns do not exist." But it is also possible for us to enter into a secondary domain, such as that of C.S. Lewis's *Chronicles of Narnia*, and say

[59] Peter van Inwagen, "Creatures of Fiction," *American Philosophical Quarterly* 14 (1977): 299-308.
[60] *Reference and Existence*, 72.

truly, "Unicorns do exist." To do so, means adopting a different vantage point and entering a world of mere appearance without intrinsic causal properties.

When children ask, "But is it true?" what they want to know is whether these marvelous creatures lurk in their world and may yet threaten their wellbeing; hence the question is whether a creature such as dragons belongs to the primary or the secondary realm.[61] To say, "Wookiees do not exist," when they obviously do in the world narrated by George Lucas, means that wookiees belong only to the world of fantasy, the world narrated by Lucas, and do not also belong to our world; they are embedded in fiction. One has to step outside the frame of reference of the fictional work and relate items in that frame to our own. In that frame of reference, wookiees really exist, just as much as planets and people. But outside that frame of reference, wookiees, unlike planets and people, do not match any references in our world. We can speak *intra*fiction and say, "Wookiees exist," or we can speak *extra*fiction and say, "Wookiees do not exist." This is a completely natural distinction made by ordinary language users in navigating a text: "Are there wookiees in *Star Wars*?" "Yes." "Do they really exist?" "No." "Why not?" "They belong exclusively to a world that is just pretend." (That is, they are embedded in fiction.) To recognize that existential judgments are said relative to a frame of reference allows us to avoid the absurdity of saying that there *are* non-existent things or that to refer to a fictional character, even one that is concrete, is to refer to an abstract entity. In the primary world are secondary frames of reference, such as *The Lion, the Witch, and the Wardrobe* and *Star Wars*, inside of which some things are true only there.

Our own vulnerable flesh plants us firmly in the primary world even as we experience the freedom to explore, for a time, secondary worlds, in which we can feel terror without having to fear being eaten. In secondary worlds, we are present as an invisible and so invulnerable

[61] See Tolkien, "On Fairy-stories," 64 n. 26.

bystander; the wrath of a dragon will never turn on us, for we are not bodily there. Even the actor only pretends to die. Wittgenstein captures the existential primacy of the primary world: "For an actor may play lots of different roles, but at the end of it all *he himself*, the human being, is the one who has to die."[62] This presentational and existential difference is causal. In the primary world, the creature can only threaten our well-being because we are in causal interaction with it: we can satisfy the beast's appetite and be crushed by its massive jaws. But this also means we can ask causal questions about it that do not bear on our own existence.

I argued above that pretense applies to the whole of the secondary world, even though some items of that world match things to be found in the primary world. To say that centaurs do not exist is to compare what shows up in the secondary world with what shows up in the primary world and to find that centaurs are to be found only in the secondary world. To say that horses, by contrast, do exist is to compare what shows up in the secondary world with what shows up in the primary world and to say that horses exist because they show up in the primary world; showing up in the secondary world is wholly incidental to their being (but essential for centaurs). Dinosaurs and other extinct species are in between. To say that dinosaurs once existed is to compare what shows up in the secondary world of appearance with what shows up in the primary world and to find that, while dinosaurs are only to be found in the secondary world, the secondary world in which they are embedded is continuous with our own; that they are accessible only through mediation is incidental to their being. Fossils, qua images, belong to a secondary world. But the secondary world they belong to, thanks to the fact that they are reflections not depictions, is continuous with the primary world; it is an earlier state of the

[62] Wittgenstein, *Culture and Value*, ed. Georg. H. von Wright, trans. Peter Winch (Chicago: University of Chicago Pres, 1980), 50.

primary world, the world of real existence. We can express this by saying that they do not exist or, more accurately, they no longer exist.[63]

We could have fossilized remains of a horse, which as imitation opens a secondary realm, and which, as reflection (not depiction), belongs to a secondary realm continuous with our own, that is, an earlier version of the primary realm. But in the case of a fossil matching a living species, we could say not only horses existed then but also that they exist now. Hence to say that dinosaurs once existed is a function of comparing the primary realm then with the primary realm now and finding that what was at primary $realm_1$ is not at primary $realm_2$. It is also possible to open a book and see a photo of a horse, which, as a reflection, points to existing horses, or to see a drawing of a horse, which, as a depiction, leaves undetermined the existence of horses.

It is commonplace to discuss this issue in terms of the non-existence of Sherlock Holmes. Arthur Conan Doyle, the author of Sherlock Holmes, also pioneered the genre of fiction in which dinosaurs might yet exist with his *Lost World* (1912). As the novelist Michael Crichton remarked, "It is one thing to conjure up a detective in a gas-lit London that already exists. It is quite another to create a world from scratch, fill it with dinosaurs and ape-men, and make it equally palatable. *The Lost World* succeeds brilliantly."[64] Doyle sells his reader on the possibility that there is a hidden valley in South America in which dinosaurs had not gone extinct. I bring this up to call attention to the accidental character of the fact that no dinosaurs are around to be ostended in the flesh. No metaphysical necessity prevents it; that they happened to die out before our time is only an accident of history. But one couldn't have a scenario in which there was a

[63] Kripke uses this language to track the difference between fictive and dead people, but I think it applies to the present cases as well. "We are inclined really to say 'Sherlock Holmes never existed', similarly for 'Vulcan' (the planet). To me 'George Washington no longer exists, though he once did' seems to be a reasonably natural expression about a dead person, but I would be disinclined to put it as 'George Washington does not exist'. (I am taking it that here there isn't a problem of an empty name either.)" "Vacuous Names and Fictional Entities," 68 n. 30.

[64] http://www.michaelcrichton.com/introduction-arthur-conan-doyle-s-lost-world/. Accessed June 14, 2017.

hidden hamlet of cyclopes, for the reference we have for them is a reference embedded within a causeless world of mere appearances. (What if Homer had visited the hamlet prior to writing *The Odyssey*? Then it would turn out we were mistaken to think that cyclops was a fictive kind; if it is a fictive kind, it cannot possibility show up as such in the primary world.)

The movie *Jurassic World* (2015) allows us to test the negative existential strategy outlined for fictive and extinct kinds. The movie makers follow the characters of the film in endeavoring to bring extinct Dinosaurs, known only according to their fossilized remains, back to life. In doing so, of course, film makers must do something equivalent to but at the same time more elaborate than the curators in a natural history museum. They not only have to arrange these bones to reveal the characteristic shape of the ineluctably absent species; they must also clothe the creature in flesh and, even more speculatively, they must envision how the animal would move, behave, and sound. What constrains the reference of that movie character, making it a reference to the primary rather than the secondary realm, is the existence, in our world, of fossilized remains. Of course, *this* flesh and blood T. rex, the one that roars, battles, and terrorizes, eating characters here and there, does not belong to the primary world but to a secondary one. The species is real but extinct; this depicted individual is a fictive sample. A curious case concerns the *Indominus rex*, the make-believe species genetically engineered and brought to life by the characters in the film. That species is equivalent to a centaur, a mythical beast. Its reference belongs to the secondary rather than the primary world. The ostension of T. rex escapes the bounds of the world of *Jurassic World*; the ostension of Indominus rex belongs only to the world of the film.

We can characterize the existence of natural kinds in terms of ostension in the flesh, that is, without mediation: something that can be so ostended is something that *exists*, something that

could have been so ostended is something that *once existed*, and something that cannot be so ostended is something that *can not exist*. What distinguishes an extinct natural kind from an artificial kind is the fact that the mediated ostension of the natural kind via reconstructed fossils targets something that in principle we could have ostended in the flesh, whereas the mediated ostension of the artificial kind targets something that in principle could never be ostended in the flesh. It is an accident of natural history that an extinct species was not ostended in the flesh.[65] It is necessary, however, that an artificial kind cannot be so ostended. Thus, we can ostend a zebra in the flesh, could have so ostended a T. rex but cannot and could never so ostend Indominus rex; we can point to the screen or to the story-book but never out there into the primary world to ostend it in the flesh. Indominus rex has an identity but lacks real existence; it belongs to a secondary world, which means it cannot be ostended without some kind of imitation and mediation.

VII

Let me summarize my analysis in five theses:

1. Deferred ostension: Ineluctably absent referents are things that can be ostended only indirectly through some kind of imitation, whether natural or artificial.

2. Mediating Shape: Deferred ostension targets the ineluctably absent original kind thanks to the retained specific shape preserved by each generation of natural or artificial imitation.

3. Causality: A natural imitation, as reflection, belongs to the primary world because it remains causally related to the original, which could have been ostended directly had

[65] Without adjudicating the many issues that arise in "resurrecting" an extinct species through biotechnology, I would note that the possibility of doing so for extinct species underscores the accidental character of their extinction. On the idea of such resurrection, see Julien Delord, "The Nature of Extinction," *Studies in History and Philosophy of Biological and Biomedical Sciences* 38 (2007): 656-67.

someone only been around; it is just an accident of natural history that no person was there at the time to point to it.

4. The Realm of Myth: Artistic imitation, as depiction, can belong to the primary world by imitating a natural kind or imagining the original of a reflected imitation such as a fossil, or it can open up a secondary, mythical world of embedded referents that are necessarily (and not just accidentally) unable to be experienced in the flesh.

5. Existence: Referents embedded in secondary worlds, though they exist there, *do not exist* in the primary world; referents embedded in the primary world *do exist*; and referents embedded in a past state of the primary world *once existed*.

That we introduce deferred ostensions via imitations, sorting their referents into different domains, points to our unique human powers to operate in the interplay of presence and absence. The human being, able to point thanks to its living body, can ostend extinct species because it can distinguish between what is present, the fossil, and what is absent, the extinct species, and indeed it can track differences in types of absence, including the difference between artificial kinds, such as dragons, and natural but extinct kinds, such as dinosaurs.

Works Cited

American Museum of Natural History. "A Dinosaur by Any Other Name," News and Blogs of the American Museum of Natural History, posted August 13, 2012, http://www.amnh.org/explore/news-blogs/on-exhibit-posts/a-dinosaur-by-any-other-name, accessed December 7, 2022.

Bochner, Gregory. *Naming and Indexicality*. Cambridge: Cambridge University Press, 2021.

Callaway, Ewen. "Beloved *Brontosaurus* makes a comeback: Jurassic giant's taxonomic status is restored." *Nature*, 7 April 2015, www.nature.com, accessed December 7, 2022.

Crane, Judith K. "Two Approaches to Natural Kinds." *Synthese* 199 (2021): 12177-12198.

Delord, Julien. "The Nature of Extinction." *Studies in History and Philosophy of Biological and Biomedical Sciences* 38 (2007): 656-667.

Devitt, Michael and Kim Sterelny. *Language and Reality: An Introduction to the Philosophy of Language*, 2d ed. Cambridge, MA: The MIT Press, 1999.

Donnellan, Keith S. "Kripke and Putnam on Natural Kind Terms." In *Knowledge and Mind*, ed. C. Ginet & S. Shoemaker, pp. 84–104. Oxford University Press, 1983.

Dupré, John. "Is 'Natural Kind' a Natural Kind Term?" *The Monist* 85 (2002): 29-42.

_____. "Natural Kinds and Biological Taxa." *The Philosophical Review* 90 (1981): 66-90.

Engelland, Chad. *Language and Phenomenology*. Edited collection. London: Routledge Press, 2020.

_____. *Ostension: Word Learning and the Embodied Mind*. Cambridge, MA: The MIT Press, 2014.

_____. *Phenomenology*. The MIT Press Essential Knowledge Series. Cambridge, MA: The MIT Press, 2020.

Evans, Gareth. "The Causal Theory of Names." In *Collected Papers*. Oxford: Clarendon Press, 1996. (Reprint: *Proceedings of the Aristotelian Society Supplementary Volume* 47 (1973): 187-225).

Gómez Torrente, Mario. *Roads to Reference: An Essay on Reference Fixing in Natural Language*. Oxford: Oxford University Press, 2019.

Gould, Stephen Jay. *Bully for Brontosaurus: Reflections in Natural History*. New York: W. W. Norton & Company, 1991.

Hacking, Ian. “Putnam’s Theory of Natural Kinds and Their Names Is Not the Same As Kripke’s.” *Principia: Revista Internacional de Epistemologia* 11 (2007): 1-24.

Inwagen, Peter Van. “Creatures of Fiction.” *American Philosophical Quarterly* 14 (1977): 299-308.

Kripke, Saul. *Naming and Necessity*. Malden, MA: Blackwell, 1981.

_____. *Reference and Existence: The John Locke Lectures*. Oxford: Oxford University Press, 2013.

_____. “Unrestricted Exportation and Some Morals for the Philosophy of Language.” In *Philosophical Troubles: Collected Papers*, vol. 1. Oxford: Oxford University Press, 2011.

_____. “Vacuous Names and Fictional Entities.” In *Philosophical Troubles: Collected Papers*, vol. 1. Oxford: Oxford University Press, 2011.

Kuhn, Thomas. *The Essential Tension*. Chicago: University of Chicago Press, 1977.

Mueller, Tom. “Mister Big: Move over, T. rex: The biggest, baddest carnivore to ever walk the Earth is Spinosaurus.” *National Geographic* 226, no. 4 (October 2014): 116-133.

O’Connor, Flannery. “The Church and the Fiction Writer,” in *Collected Works* (New York: The Library of America, 1988), 808.

Plato. *Republic*. Translated by G.M.A. Grube, rev. C.D.C. Reeve. In *Plato: Complete Works*, ed. John M. Cooper. Indianapolis: Hackett Publishing Co., 1997.

Putnam, Hilary. “Aristotle after Wittgenstein.” In *Modern Thinkers and Ancient Thinkers: The Stanley Victor Keeling Memorial Lectures at University College London, 1981-1991*, ed. Robert W. Sharples, 117-37. Boulder: Westview Press, 1993.

_____. “The Meaning of ‘Meaning’.” In *Mind, Language, and Reality*. Cambridge: Cambridge University Press, 1975.

_____. “Meaning, Other People, and the World.” In *Representation and Reality*. Cambridge, MA: The MIT Press, 1988.

_____. “Reply to Ian Hacking.” In *The Philosophy of Hilary Putnam*, ed. Randall E. Auxier, Douglas R. Anderson, and Lewis Edwin Hahn. Chicago: Open Court, 2015.

Quine, W. V. “Ontological Relativity.” In *Ontological Relativity and Other Essays*. New York: Columbia University Press, 1969.

_____. *From Stimulus to Science*. Cambridge, MA: Harvard University Press, 1995.

Salmon, Nathan. "Nonexistence." *Nous* 32 (1998): 277-319.

Soames, Scott. "Reference and Description." In *The Oxford Handbook of Contemporary Philosophy*, ed. Frank Jackson and Michael Smith, 397-426. Oxford: Oxford University Press, 2005.

Sokolowski, Robert. "Exact Science and the World in which We Live." In *Pictures, Quotations, and Distinctions: Fourteen Essays in Phenomenology*, 155-170. Notre Dame, IN: University of Notre Dame, 1992.

_____. *Phenomenology of the Human Person*. New York, NY: Cambridge University Press, 2008.

_____. *Presence and Absence: A Philosophical Investigation of Language and Being*. Bloomington, IN: Indiana University Press, 1978.

_____. "Referring." *Review of Metaphysics* 42 (1988): 27-49.

Stanford, P Kyle. "Getting Real: The Hypothesis of Organic Fossil Origins." *Modern Schoolman: A Quarterly Journal of Philosophy* 87 (2010): 219-243.

Thompson, Michael. *Life and Action: Elementary Structures of Practice and Practical Thought*. Cambridge, MA: Harvard University Press, 2008.

Tolkien, J.R.R. "On Fairy-stories." In *The Tolkien Reader*. New York: Ballantine Books, 1966.

_____. *The Letters of J.R.R. Tolkien*. Edited by Humphrey Carpenter and Christopher Tolkien. Boston: Houghton Mifflin Company, 2000.

Wang, Yanan. "Even Kate Winslet thinks Rose let Jack die in 'Titanic.' *The Washington Post*, Feb. 3, 2016.

Wittgenstein, Ludwig. *Culture and Value*. Edited by Georg H. von Wright. Translated by Peter Winch. Chicago: University of Chicago Pres, 1980.

_____. *Philosophical Investigations*, 2d ed. Translated by G. E. M. Anscombe. Oxford: Blackwell Publishers, 1958.