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Anti-Descriptivism 2.0

In *Roads to Reference*, Gomez-Torrente updates the anti-descriptivist theories of meaning and reference of names, demonstratives, and natural kind terms pioneered by Saul Kripke, Hilary Putnam, and David Kaplan. He offers rules distinguishing successful from unsuccessful instances of demonstrative reference as well as those involving names and natural kind terms. In each case, we get sufficient conditions for a use of an expression to refer to x , and sufficient conditions for it to fail to do so, but no individually sufficient and disjunctively necessary conditions for determining reference. This makes room for referential indeterminacy, the most interesting cases of which involve natural kind terms.

Water, H₂O and Vague Identity

In chapter 5 it is argued that water is vaguely identical with H₂O, from which involves being neither determinately identical nor determinately non-identical with H₂O. What does this mean? Suppose that for x to be *determinately F* is for the claim *that x is F* to be a necessary consequence of non-linguistic facts plus the linguistic rules governing 'is F'. Such predicates are governed by conventions providing sufficient conditions for application and non-application, but no individually sufficient and disjunctively necessary conditions for either. For x to be *indeterminately F* is for the claim *that x is F* and the claim *that x isn't F* to fail to be necessary consequences of non-linguistic facts plus linguistic rules. Since knowing these facts and rules wouldn't put one in a position to conclude *that x is F* is true, or that it isn't, it is plausible to suppose that neither claim can be known to be true. Hence, it may be argued, neither claim is *correctly assertable*. This, Gomez-Torrente seems to think, is true of the claim *that water is H₂O* and the claim that it isn't.

But wait a minute. Haven't we given the game away? One can't claim *that it is both necessary and knowable only a posteriori that water is H₂O*, if it isn't knowable that water is H₂O. Since Gomez-Torrente does defend that claim, I suspect he takes what we say when we use "Water is H₂O" is that water is *vaguely identical with H₂O*, i.e., neither determinately identical nor determinately non-identical with H₂O. We can get a feel for this by asking whether the distance between cities a and b equals the distance

between cities c and d. Suppose the two pairs are roughly 50 miles apart. Striving for precision, we measure and find the distance to be 50.01 miles in both cases. Still, we ask: "Is it exactly 50.01? Mightn't it be 50.0101 in one case and 50.0102 in the other?" Since there will be limits to the precision of any feasible measurement, we may suspect that there is no fully precise answer to the question, "Is the distance between a and b the same as that between c and d?". Ordinary talk about the distances may be irresolvably vague. Similarly, Gomez-Torrente seems to suggest, ordinary talk about substances like water is vague. If so, then when one says 'Water is H_2O ', or 'Gold is Au', what is said is that they are vaguely identical.

He illustrates this by noting that the formula ' H_2O ', specifies the proportion of hydrogen to oxygen atoms in a molecule, while saying nothing about the microstructure joining them. There are, in fact, different types of H_2O molecules with different microstructures. Because of this, some have argued, H_2O is not a substance, but a heterogeneous collection of scientific substances, i.e. genuine natural kinds. H_2O molecules also differ in other ways. There are both variations in spin types of the protons in their hydrogen atoms and variations in the number of neutrons in them. These variation in microstructure, spin types, and number of neutrons can affect the behavior of H_2O molecules. In short, H_2O is not an explanatory kind at the most fundamental level of chemistry.

There is no reason to dispute this because, as Gomez-Torrente observes, the referent of 'water' is an ordinary term the referent of which is fixed by a stipulation roughly equivalent to the following.

'Water' designates the substance (the property P) instances of which include (nearly) all paradigmatic samples (we associate with the word). Possession of P is what explains their salient observable features -- e.g. that they boil and freeze at certain temperatures, that they are clear, potable, and necessary for life, etc. Hence '*is water*' will apply (at a world-state) to quantities that have the property that actually explains the salient features of or paradigmatic samples¹.

If this reconstruction is correct, then what counts as water will be vague at the margins. What exactly are the paradigm *water*-samples? How many must turn out to be genuine for a referent of 'water' to be determined? With what degree of precision, within which measurable ranges, are features of samples

¹ Soames (2014)

specified? How uniform must these explanations be across instances? None of this is precisely specified, because, for ordinary purposes, it need not be. Thus, 'water' is vague to an extent to which 'H₂O' isn't.

Does this show that water isn't H₂O? Not if one believes in vague identity, which allows sub types H₂O* that are determinately distinct from H₂O, while being vaguely identical with water. There is, of course, a property H₂O has which water lacks -- *being determinately non identical with H₂O**. But *identity*, *vague identity*, and *determinate identity* are different properties, as are *non-identity*, *vague-non-identity*, and *determinate non-identity*. Thus, Leibniz's law, in the form (1), must be rejected, without being denied.

1. For all x,y, if x is identical with y, then every property of x is a property of y.

However, (2) and (3) can be accepted.

2. For all x,y, if x is determinately identical with y, then every property of x is a property of y.

3. For all x,y, if x is vaguely identical with y, then no property that is determinately true of x is determinately false of y.²

All of this is coherent, defensible, and (I think) compatible with Gomez-Torrente's position..

Compatibility is illustrated by a few passages from chapter 5. The first discusses water plus a pair of H₂O sub types: P₂O, hydrogen atoms of which have no neutrons and 1 proton, and D₂O, hydrogen atoms have 1 of each. Paradigmatic water is mostly P₂O with very little D₂O. Gomez-Torrente notes:

I ...think it is...not part of the ordinary meaning of "substance" or "water" that these should have sharp boundaries, and, in particular that they should be precise along the dimensions along which scientific chemical kinds are precise...There is no principled reason...why water should be identified with H₂O instead of with P₂O, no principled reason why [instances of] D₂O should or should not be [instances of] the same substance as alleged paradigms of water. A sample of D₂O molecules is not determinately water...even if it is determinately H₂O (and not P₂O). But if this is so, "water" has blurry boundaries along dimensions which H₂O does not. (171)

[I]t...appears...reasonable that "water"...[is] not reducible to scientifically precise necessary and sufficient conditions given in terms of underlying structures...[P]roperties that are the potential referents of "water"... have determinacy conditions different from...the presumable referents of "H₂O", "P₂O" (173-4)

² I take it for granted that water is determinately identical with water. As I have set things up this means that water is not vaguely identical with water.

Next, Gomez-Torrente asks whether ordinary [non-scientific] kinds exist. He argues that we have as much reason to believe in them as we do in referents of ordinary proper names for which we lack precise identity conditions.

Kripke suggests...that a given statue is not the same object as the matter that constitutes it...as the statue is essentially a statue, but the matter is not essentially a statue...A given plant...cannot be identified with the matter that constitutes it through its life history, as the plant had dispositions and other modal properties that the matter didn't have: the plant had the disposition to become constituted by other matter, but the [original] matter ...didn't...[Mark] Johnston...provides analogous arguments...[H]e claims...that the kind water cannot be the kind H_2O because instances of water must be essentially instances of liquid water, water vapor, ice...while an instance of H_2O -- a single H_2O molecule, for example, is not essentially any of those things. Yet Kripke sees his arguments as showing that ordinary objects exist and are simply different from the aggregates of matter that constitute them, and Johnston sees his arguments as showing that ordinary kinds exist and are simply different from the scientific kinds with which they are typically identified. (175-6)

The paragraph is perplexing. Kripke's arguments purport to show that the statue and the plant are *different from* (\neq) the matter constituting them. Johnston purports to show the same about water and H_2O . Gomez-Torrente cannot, I believe, accept this conclusion.³

Fortunately, he follows up by noting that his arguments depend, not on different modal profiles, but on different determinacy profiles. He also notes that whether an ordinary object, like a statue G made of a sub type of *AU* (gold), persists through replacements of some of its parts by parts of a different sub type of *AU* can't be given a determinate answer, even though it is *determinately false* that the original matter making up G = the matter later making it up.

[W]e reach the conclusion that G and its matter (however scientifically described) *cannot be identified*, but this fact shouldn't tempt us into thinking that G doesn't exist...[T]he basic analogy between ordinary objects and ordinary kinds [referents of natural kind nouns] suggests that ordinary kinds...are...*irreducible* to precise structural biochemical-chemical-physical kinds. Provided we...believe in the existence of ordinary objects, we should...believe in the existence of kinds irreducible to precise [scientific kinds]. (177, my emphasis)

This is exactly right, if "*cannot be identified*" means, not that the identity claim is not true, but that neither it nor its negation is correctly assertable (in the sense explained above). Does Gomez-Torrente accept this interpretation?

Presumably, his answer depends on how he understands vagueness. I take statements made using vague language be ungrounded, in roughly the sense of Kripke (1975). They are associated with sufficient

³ See pp. 294-305 of Soames (2002) for an analysis of Johnston's argument and criticism of his conclusion.

conditions for being true and sufficient conditions for being not true, but no individually sufficient and disjunctively necessary conditions for truth/untruth. Thus, the conditions are silent about the truth/untruth of the statement in some circumstances.⁴ Hearing this, some who recognize thought and language to be vague become skeptical about embracing vague objects and properties. Not me, and not, I think, Gomez-Torrente. For him, natural kinds, including substances, are vague properties, instances of which include vague objects. Suppose I buy a lot in the country, the dimensions of which are specified in yards, feet, meters, or other conventional units. There is, then, a piece of land to which I hold legal title. Although its specified dimensions are sufficient for practical purposes, its boundaries are blurry, leaving some statements identifying it with more precisely specified plots neither determinately true nor determinately false.

So, there are vague objects and properties, independent of us, made salient by our interests, activities, and our perceptual and cognitive apparatus. 'Water' (H_2O) determinately refers to water (H_2O), and nothing else. But one of these properties has some instances -- objects, quantities, etc. -- that are neither determinately identical with nor determinately distinct from instances of the other. This, is the crux of Gomez-Torrente's persuasive defense of the Kripke-Putnam treatment of natural kinds.

Hot, Loud, and Red: Secondary Qualities as Kripkean Kinds

[M]y argument implicitly concludes that certain general terms, those for natural kinds, have a greater kinship with proper names than is generally realized. This conclusion holds for certain for various species names, whether they are count nouns such as 'cat', 'tiger', or chunk of gold, or mass terms such as 'gold', 'water', iron pyrites'. It also applies to certain terms for natural phenomena, such as 'heat', 'light', 'sound'...and, suitably elaborated, to corresponding adjectives-- 'hot', 'loud', and 'red'.⁵

In chapter 7, Gomez-Torrente rebuts recent objections to the extension of Kripke's analysis of natural kind terms to adjectives for perceptible qualities, including colors and temperatures. Although this extension has led to plausible theories of colors as precise reflectance properties, that precision is challenged by variation in color judgments involving seemingly inconsistent complex predicates, e.g., C1:

⁴ Soames (chapters 6,7 1999), also Soames (2009a,b, 2018b).

⁵ Kripke (1980) p. 134.

'green but somewhat blue', and C2: 'green but neither somewhat blue nor somewhat yellow'.

Agent A1 takes some items to be instances of C1 that A2 takes to be instances of C2. Since both are competent English speakers with normal vision, it is hard to convict either of error. But if there is no error, it may seem that the properties expressed by those uses must be subjective, speaker-relative, or phenomenalistic.

Gomez-Torrente responds, (a) by noting that we get similar variation in what is judged to be *warm* vs. *neither warm nor cool* which track where something stands on a physical scale (temperature), and (b) by suggesting that colors and other sensible qualities approximate precisely defined scientific properties, and so, like water and gold, have vague boundaries. He also notes that adjectives for perceptible qualities are standardly gradable, uses of which incorporate contextually defined standards -- e.g. minimum temperatures for something (of a given type) to count as hot, or minimum levels of hue, brightness, and saturation for something (of a given type) to count as green. In responding to the C1, C2 puzzle, he attributes the slightly varying color judgments made by A1 and A2 to idiosyncratic variations in the absorption of light by their visual systems. Because their visual systems track slightly different reflectance properties, the agents see slightly different objective colors, which they judge to be present.

Gomez-Torrente suggests that agent-relative contextual parameters generate slightly different contents for uses of sensory adjectives by different agents.

[T]he objective standards that speakers fix on for "hot" and "cold" need not be publicly available, or be part of a "context" understood as an already publicly available common ground. The notion of contextual determinant at play is a Kaplanian one on which such things need not be immediately publicly available...Of course, if there is to be successful communication between [agents] N and H...they will each have to guess in some way which thermal properties and consequently which objective standards the other intended... But these guesses...need not always be successful, and may be prevented by false beliefs of various kinds. (pp. 207-8)

Similar remarks are made about uses of simple color adjectives like 'green' and 'blue' and as well as complex phrases like C1 'green but somewhat blue' and C2: 'green but neither somewhat blue nor somewhat yellow'. On this account, the perceptual experiences and perceptual beliefs of A1 and A2 -- both of whom see object o -- are equally veridical despite the fact A1 uses C1 to describe o while A2 uses

C2. The perceptual contents and beliefs are consistent because the property expressed by A1's use of C1 is slightly different from the property expressed by A2's use of C1, and similarly for uses of C2.

So far so good. Nevertheless the invocation of Kaplan's semantics in stating this conclusion creates a worry. The semantics assigns *semantic contents to sentences relative to contexts* -- the basic idea being that the meaning of a declarative sentence S is a rule that tells you what uses of S assert in different contexts. Since ordinary speakers can usually be taken to know the linguistic meanings their sentences, while also being pretty good at identifying what is asserted by uses of them, one is invited to think that their success is due to their ability to identify the contextual parameter employed by the speaker. That is called into question by the deeply private parameters cited by Gomez-Torrente.

Suppose, then, we scrap context-relative semantic contents for color words. Instead we think of these terms as determinately applying to certain examples and determinately not applying to others, leaving some cases about which their meanings are silent. It's not that you can't use the color word to truly predicate a property applying to objects in the intermediate range. You can. But in doing so, you must recognize that the dispositions of your conversational partners to apply color words may differ somewhat from yours. So, you need to be open to negotiation, recognizing that the assertive contents of your utterances are vague and that their parameters sensitive both your dispositions and to those of your conversational partners.

With this in mind, think again about the C1, C2 cases. What is asserted when A1 says "*That's green but somewhat blue*" in response to a researcher's request to describe the color seen, but A2 says "*That's green but neither somewhat blue nor somewhat yellow*"? Since each is merely describing the objective color perceived, it is likely that the propositions asserted consistent, quite possible that they predicate the same property of the same thing. In a different situation this might not be true. Suppose A1 and A2, previously unknown to each other, are conversing by phone, trying to decide the color of a sofa to purchase for the dorm room to which they have been assigned. Since neither is in a position to make guesses about idiosyncrasies in the other's use of e.g., '*somewhat blue*', they can't converge on consistent

contents for the contributions made by C1 and C2 to propositions on which they are seeking to agree. If we take assertive contents, in general, to be those that attentive, conversational participants have most reason to converge on, then, in the situation just sketched, we are likely to judge that there is no pair of compatible assertions to converge on and that their remarks are not consistent. This needn't be true in other contexts, e.g., after A1 and A2 have become roommates and they realize that their natural threshold points for certain color terms are different. Though neither may then be able to precisely identify the cut off points for *is green but is (or isn't) somewhat blue*, as used by the other, they may realize that there is a vague overlap which -- whatever it turns out to be -- they are jointly prepared to commit. Then, their assertions will be consistent.

What is Meaning and How is it Related to Reference and Assertion?

This critique of Gomez-Torrent's implicit use of Kaplan's *semantic content of a sentence at a context* in presenting his otherwise sound views about adjectives for sensory kinds, is part of a broader picture. In chapter 7 of Soames (2010), I suggest that the meaning of a sentence S is a set of constraints on propositions that normal uses of S assert or express. Proper names and general terms for natural kinds typically contribute their referents to those propositions. Occurrences of indexicals and demonstratives contribute constraints on referents. Roughly put, the referent of an occurrence of 'he' is constrained to be male, of 'she' to be female, of 'now' to be a period including the present moment, and so on.⁶

Although this is not Gomez-Torrente's perspective, his findings in chapters 1 and 2, are largely consistent with it. Speaking of demonstrative reference, he says:

Demonstratives such as "this," "that," "he," "she," "it," and "they" are perhaps... the most basic instruments of linguistic reference...[U]nder the influence...of Kaplan's groundbreaking work...[j]ust about everybody writing in this area seems to imply...that there should be a description, provided by the reference-fixing rule for, say, "that" (by the Kaplanian character for "that") which fixes the reference of a use of 'that' in the context. But the description in question has turned out to be exceedingly difficult to find." (p.11)

In chapter 2, he reviews the literature and offers a plausible diagnosis. The strongest implicit rules for governing demonstrative reference that it is reasonable to attribute to speakers provide, for all uses of a

⁶ For further complexity chapters 3-5 of Soames (2015), Soames (2009c:322-24), Soames (2010:163-73) Soames (2018a:246-52).

demonstratives *d* and objects *o*, sufficient conditions for *d* to refer to *o* and sufficient conditions for it not to do so, but no individually sufficient and disjunctively necessary conditions for a use of *d* to refer to *o*. His rules for determining reference success or failure are based on intentions to refer to what one is perceiving, memory based intentions, and intentions to refer to what satisfies a given description. These are used to resolve some problematic cases in the literature, while suggesting that other cases are irresolvable cases of referential indeterminacy.

This is progress. But progress at what? Not, I think, at identifying propositions as semantic contents of sentences at contexts. Suppose we limit ourselves to cases of determinate reference or determinate reference failure. Gomez-Torrente's rules might then identify what, if anything, one who uses 'That is *F*' in a given context *C* refers to. But if, as I believe, what is asserted depends on facts about all parties to the communication, we still may not know what is asserted. Because of this, what the speaker was referring to, and what, if anything, the speaker succeeded in saying/asserting something about may diverge. Once we realize that conventional semantic meaning, whatever that amounts to, is only one component in determining assertive or other illocutionary content, we need to be told more about what it means to say that *o* is *the semantic referent of 'that' in C*, or that *o is F* is *the semantic content of 'That is F' in C*. Do we need the notion *the semantic referent* of a demonstrative at a context at all?⁷

Proper Names and Numerals Designating Natural Numbers

The crowning jewel of the book, is, for me, the account of natural numbers as plural cardinality properties, and the treatment of verbal, and Arabic, numerals as special, directly referential names of those properties. According to Gomez Torrente, we are cognitively and perceptually acquainted with small numbers, learning verbal names for them when we learn to count. Imagine a child inferring that I am holding up three fingers from her perceptual knowledge that *x*, *y*, and *z* are different fingers. In counting, she pairs off, without duplication or remainder, the fingers I am holding up with the numerals

⁷ Pages 40-43 of *Roads to Reference* talk about what uses of "*that*" *semantically refer to*, about actual vs. possible *semantic conventions* of English that determine the referents of uses of 'that', about the *semantic maturity* of certain judgements about difficult cases, and about what *competent speakers would judge to be said* by a use of a sentence involving a demonstrative.

‘one’ through ‘three’, *thereby ensuring that the fingers and the numerals “have the same number”* in Frege’s sense. The number they share, *being three*, is designated by the numeral that ended the count. The process can be continued as long as the verbal numerals hold out. After that we can resort to Arabic numerals to name all natural numbers.

Although the end result is an infinite set of Millian names the semantic contents of which are the numbers they designate, the system we master generates a *reference-fixing description* for each number. The system is *semantic* in three senses. First, it is the mechanism specific to many languages (but not to ancient Latin or to invented languages for doing arithmetic using bases other than ten) that determines what speakers refer to when they use all but the smallest numerals. Second, the reference-fixing rules are genuine conventions, based on contingent decisions that spread and become widely shared. Third, knowledge of the conventions is part of what *understanding* numerals amounts to. Gomez-Torrente's explains how even mathematically unsophisticated speakers are able to master the system. This is the most compelling example of Kripke-style reference-fixing descriptions for Millian names that I know of.

My final point is that this type of reference-fixing contrasts with the sense in which he provides rules relating ordinary proper names to their referents. His rules (pp. 93-97), though plausible, aren't semantic in the senses just enumerated. They aren't language specific and they don't reflect contingent conventions for resolving coordination problems. They do have something to do with understanding names, but the most interesting rules take the name already have a referent in the language of speaker's community. Their job is to distinguish cases referential success from cases of reference failure when the speaker's perceptual or descriptive intentions conform to, or conflict with, those of the community. Although this is useful in discussing controversies in the literature, it is not always clear what semantic or pragmatic facts are being tracked.

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