Category Mistakes and the Generality Constraint:
Can Caesar be a Prime Number?

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The Generality Constraint, defined by Gareth Evans in *The Varieties of Reference*, concisely describes what qualifies as grasping a thought in terms of its structure. The constraint appears to have its overall generality challenged by the notion of category mistakes, apparently absurd propositions such as "Caesar is a prime number." These types of propositions seem to lack any content.

One solution is to introduce categorial restrictions, which would limit propositions to just those formed out of appropriately combined subjects and concepts. However, how these restrictions ought to function within the constraint is not clear. While they appear to reflect ontological facts, they falter in consideration of how we already use certain cross-categorial statements without problem. Nothing in Evans' definition itself explicitly demands categorial restrictions per se.

Generality Constraint (Unrestricted): If an agent can think the thought "A is an F," and the agent can think the thought "B is a G," then the agent can think the thoughts "B is an F" and "A is a G."[1]

Two interpretations of the constraint, first proposed by Peter Carruthers in his "Invertebrate Concepts Confront the Generality Constraint (and Win),"[2] elucidate the apparent consequences that category mistakes pose for the constraint:

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[1] Gareth Evans, *The Varieties of Reference*, ed. John McDowell, (Oxford University Press, 1982). p 104.

[2] Peter Carruthers, "Invertebrate Concepts Confront the Generality Constraint (and Win)," *The Philosophy of Animal Minds* (2009): 89–107. p 96.

Strong Generality Constraint: If an agent possesses the concepts A and F (and is capable of thinking "A is an F"), then for *all* (or *almost all*) other concepts B and G that the agent could possess, it is metaphysically possible for the agent to think "A is a G," and in the same sense possible for it to think "B is an F."

Weak Generality Constraint: If an agent possesses the concepts A and F (and is capable of thinking "A is an F"), then for *some* other concepts B and G that the agent could possess, it is metaphysically possible for the agent to think "A is a G," and in the same sense possible for it to think "B is an F."

These interpretations differ over whether the constraint should be read as qualifying the grasp of a thought only if a thinker can entertain *all* (or *almost all*) possible thoughts which implicate the concepts involved, or just *some* or *any* such thoughts.[3] If human thought resembles something closer to the weak interpretation, then category mistakes would not be an issue, and the constraint wouldn't need to explain them. However, this just is not the case. Category mistakes already figure in human thought, and some of this usage poses no problems. Nothing prevents an agent from thinking about all sorts of new combinations of objects and properties, and this transportation of thoughts is what the constraint describes.

The weak interpretation explains an activity similar to thinking, such as forms of pattern recognition and functional behavior exhibited by machines and non-human animals. Although these cognitive analogs exhibit limited systematicity, they differ from human thought in that they operate within the confines of artificial

[3] ibid. p 96.

or natural domains and their activity does not include instances of transporting concepts between domains or generalizing notions. Camp, Carruthers and Evans[4] agree that human thought resembles something closer to the stronger interpretation.

A reason that one might resist the strong interpretation is that were one able to combine all his thoughts with all the other thoughts one has, then the constraint apparently guarantees that grasping a thought entails that one must also extend their concepts into combinations that include category mistakes. This version of the constraint still leaves room to accept restrictions on cross-categorial content (as Camp takes Evans to do) or reject such restrictions (as Camp does).

I shall argue that given an even stronger interpretation than Carruthers', one that stipulates the ability to extend a thought to *all* (*not* almost all) other concepts, there is a way to explain the content of category mistakes in such a way that they neither pose a problem for grasping thought nor muddle its systematicity. This interpretation is the closest possible reading to Evans' definition.[5]

My proposed solution is that to deal with phrases such as "Caesar is a prime number," we are not entertaining his metaphorical counterpart, the one who rules Rome alone and indivisibly.[6] Rather, we are dealing with his suppositional counterpart. The question this raises is which of Caesar's properties are possessed

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[4] Evans, *The Varieties of Reference*. p 105. That is, it is "an ideal, to which our actual system of thoughts only approximately conforms."
[5] Through-out the rest of the text, this shall be the interpretation being referred to.
[6]Much of this strategy arose in conversations with Anubav Vasudevan while creating this project.

by that thing about which we reason, when we reason under the supposition that "Caesar is an X." The more properties transfer, the more categorially well-matched are X and Caesar, the less properties transfer, the more categorially mismatched are Caesar and X.

Section 1 - Restricted versus Unrestricted Generality

Because category mistakes apparently lack content, they pose a problem for the unrestricted form of the Generality Constraint.

Examples of category mistakes include "Caesar is a prime number,"[7] "Colorless green ideas sleep furiously,"[8] and other such propositions that, while grammatically correct, nevertheless appear to involve concepts whose semantic types are, in some sense, mismatched. The apparent nonsensicality of such propositions derives from the fact that they involve the ascription of properties to objects that do not seem capable of possessing those properties. If we accept the constraint, in its unrestricted form, then we must regard category mistakes as meaningful. If, on the other hand, we wish to treat category mistakes as nonsense, then we must restrict the scope of the constraint, so as not to apply to categorial mismatches.

The difficulty comes from how the constraint suggests that in order to think the thought "B is green," we must be capable of thinking thoughts of the form "A is

[7] Rudolf Carnap, "The Elimination of Metaphysics Through Logical Analysis of Language," *Erkenntnis* II (1931). Camp uses this phrase, but appears early here.
[8] Noam Chomsky, *Syntactic Structures*, (Mouton & Company, 1957). p 15.

green." But there are some thoughts which, intuitively, a competent English speaker, who can claim understanding of the concept "green," cannot think, namely those in which A is "not the sort of thing" which can be green (e.g., "The number 8 is green"). Thus, it seems we must either restrict the scope of the constraint to exclude such cases, or else we must attribute some meaning to category mistakes.

[Subsection 1.1] Category Mistakes

Because the Generality Constraint just states what types of propositional content can be called thoughts, and what it means when one grasps such a thought, little about the constraint itself draws controversy.[9] [10]

However, the apparent need to prohibit or otherwise eliminate category mistakes does provide motivation for adding to the constraint some notion of categorial restrictions. Such restrictions proscribe propositions that combine an object and property that do not normally go together. One might be tempted to conclude that absurd cases are also wrong cases. However, Elisabeth Camp observes that it is a mistake to conclude that such cases are false. She argues that thinkers can be wrong, not just propositions. So absurd propositions can easily be just a symptom of thinkers lacking competence, unable to understand what an apparently

[9] Christopher Peacocke, *A Study of Concepts*, (MIT Press, 1992). p 42. "The recombinability of concepts to form new thoughts has been largely unquestioned in the published literature."

[10] Kent Johnson, "On the Systematicity of Language and Thought," *The Journal of Philosophy* 3 (2004): 111–139. p 111. Johnson notes "Systematicity (sometimes under the name "generality" or "recombinability") has [...] been discussed frequently in the philosophy of mind" citing Evans (1982), Peacocke (1992), and Travis (1994).

absurd phrase means.[11] It may be the case that the phrase in question does mean something.

Imposing categorial restrictions, if even feasible to conceive what those ought to be, comes at the cost of eliminating otherwise meaningful types of propositions, such as metaphors. However, without categorial restrictions the constraint seems unequipped to determine conceptually valid content. Camp argues against "[imposing] categorial restrictions on either conceptual significance or conceptual competence," noting four considerations:[12]

i) Determining appropriate categories in the first place will be difficult or unfeasible

ii) Cross-categorial strings often possess substantive inferential roles and therefore should count as significant

iii) Normal thinkers make use of these inferential roles, in particular in the process of constructing metaphors

iv) There is no good reason to deny that cross-categorial predications with inferential roles also have truth-conditions

These give compelling reasons to ignore categorial restrictions as a solution for the apparent problem of category mistakes. Metaphorical language examples support Camp's claim that the strangeness of category mistakes cannot be taken as a

[11] Elisabeth Camp, "The Generality Constraint and Categorial Restrictions," *The Philosophical Quarterly* 54, no. 215 (2004): 209–231. p 211, 226f.
[12] ibid. p 212.

clear indication that such propositions lack content.[13] Camp also argues for full generality on grounds of mathematical and scientific discovery making previously incoherent statements undeniably true.[14] Of greater consequence, though, is the observation that deeming certain propositions to be ambiguous comes at the cost of losing the cross-categorial language that speakers use already and without problem.[15]

Without categorial restrictions, it seems that a challenge still remains for the constraint. It must explain how statements that seem absurd, such as "Caesar is a prime number" might, nevertheless, still be meaningful. Otherwise, it must be explained why such phrases are different from other phrases, the meaning of which no one doubts.

The fact of the matter requires examining more closely which category mistakes, if any, constitute “absurdities,” devoid of any meaning, and which ought to be regarded as meaningful. In addition, one ought to try to explain why those category mistakes that are meaningful still strike us as strange, and somehow different from other more ordinary meaningful propositions. This analysis requires that we distinguish metaphors and real category mistakes from each other. The ability to entertain the thought that “A is an F,” does not simply mean to entertain a thought which, in some metaphorical context, might be expressed by the claim that “A is an F.” Rather, it means that one can assign meaning to the claim that “A is an F,”

[13] ibid. p 211.
[14] ibid. p 230.
[15] ibid. p 216, 226.

when this claim is taken *literally*. There is an intuitive distinction between a literal and a metaphorical reading of a claim. As will be shown later on, what it means to take a statement literally will generate more interesting results for answering what category mistakes have as content.

[Subsection 1.2] Categorial Restrictions on Content

Another reason to resist categorial restrictions is that an unrestricted constraint can better preserve the notion that appropriateness comes in domains. Phrases that make sense in Mathematics or Physics may not coherently transport over to objects outside those fields. Camp argues that categorial restrictions threaten how the constraint provides systematicity to thought. What may seem an impossible hypothesis -- and therefore analytically false -- at one point in time may become a scientific principle at some time in the future, contingent on a new discovery. Camp argues that this does not entail that a proposition ceased being a category mistake -- "we fail to account for how those investigators could have proceeded with their enquiry, except by viewing them as filled with mystical inspiration."[16]

What makes such claims appear to be patent falsehoods at one point in time and indisputable laws in another boils down to a issues over thinkers' competence being at fault rather than a concept lacking significance. This requires, of course, that these claims do indeed become vindicated by science. Nothing at the time of

[16] ibid. p 231.

such claims' apparent falsehood will indicate enough to determine in advance whether as to whether thinkers' competence or the concept ought to be blamed.

Further, a proponent of categorial restrictions might also claim that admitting categorial mistakes entails that the constraint can't qualify what counts as grasping a thought. Charles Travis does just this, arguing that "our thinking is not constrained by the generality constraint,"[17] claiming that it neglects how "things would be as they are according to the one thought, but not as they are according to the other; so that there is a way for things to be on which the one thought would be true, the other not."[18]

In other words, the constraint says grasping a thought involves that thought's conceptual variants, but this leaves room for asking why some variants seem to make sense while others do not. If grasping a thought only meant extending a thought to some other concepts one has, then one might be able to avoid category mistakes by knowing relevant information. In the case of the thought "Caesar stood on two legs," one should be expected to entertain "Caesar could also stand on his hands" more often, or with less suspension of puzzlement, than "Caesar is a prime number."

While a thinker can recognize that "Caesar is a prime number" has no inferential use as a statement, one will also immediately see that it is a different kind of useless than "There are an even number of brush strokes used in a painting of

[17] Charles Travis, "On Constraints of Generality," *Proceedings of the Aristotelian Society* 94 (1994): 165–188. p 166.
[18] ibid. p 171.

Caesar in the Louvre." Nothing about the notion of categorial restrictions captures these differences at all. The account that can will entail that thinkers must be able extend their thoughts to *all* possible combinations, which requires knowing more than just what properties go together with which objects. It also requires knowing why they go together in normal ordinary use and why they hardly ever go together in exceptional cases. If this is so, then categorial restrictions, however defined, do not support the strong interpretation of the generality constraint.

To avoid the drawbacks entailed by committing to restrictions, a fully general constraint that can capture semantic notions will better clarify category mistakes. As Camp has argued, there is "no good reason to deny that cross-categorial predications with inferential roles also have truth-conditions."[19] However, even if possessing truth conditions is not implied by a proposition having a clearly defined inferential role, the constraint still ought to handle category mistakes.

While versions of the constraint that don't accept categorial restrictions will have a greater sensitivity to the interpretative activity of thought, this position risks understating what it entails to know the concepts one works with. Camp reduces what the constraint requires to "at a minimum, then, to grasp a string's inferential role, one must understand and exploit one's understanding of both the meanings and the combinations of the words in that string,"[20] an inferential role being "the

[19] Camp, "The Generality Constraint and Categorial Restrictions." p 212.
[20] ibid. p 220.

core set of inferences a thinker needs to be able to draw in order to be considered competent in the use of a thought's constitutive concepts."[21]

This is all that Camp claims is required for a cross-categorial string to not be nonsense -- genuine reasoning means using a concept outside of its range of normal application. It is not enough to grasp the thought expressed by a claim to be able to draw inferences from that claim (particularly, since the inferences may be based on a metaphorical reading of the claim). Because what constitutes normal range seems as difficult to determine as proper categorial boundaries, turning to a pragmatic account of grasping thought will shed light upon how to account for the way in which metaphor and scientific paradigms operate on apparent category mistakes.

[Subsection 1.3] The Unrestricted Constraint

Camp argues that the constraint ought to be taken without any categorial restrictions, claiming that only the mode of combination and meaning of words and phrases ought to determine whether a proposition possesses an inferential role,[22] that is, "the core set of inferences a thinker needs to be able to draw in the use of a thought's constituent concepts, and which determine the inferential power of the whole thought." [23] The point of this is that, intuitively, all that the meaningfulness of a proposition should depend on is the meaningfulness of the words that make it up and its grammatical structure.

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[21] ibid. p 219.
[22] ibid. p 222.
[23] ibid. p 219.

If we admit that category mistakes are nonsense, despite being grammatically well-formed constructions of meaningful terms, then we must posit some third criteria that enters into determinations of meaningfulness, something to the effect that the concepts implicated in a proposition be categorially appropriate. Since this latter criterion seems to be based on ontological or metaphysical beliefs, if we go this route, it seems that we allow our ontology to infect our semantics.

Camp's point is that it seems strange that our semantic standards of meaningfulness should depend upon what appear to be ontological claims about what sorts of objects can possess what sorts of properties. This is one of the main reasons for wanting to insist on an unrestricted form of the constraint. Regardless, the phrase "Caesar is a prime number" is a category mistake. The question is rather whether category mistakes are meaningless or not.

If one wishes to accept an unrestricted form of the constraint, and at the same time make sense of the apparent nonsensicality of category mistakes, one might simply deny that category mistakes are nonsensical and describe them instead as useless. But this will not do, since it doesn't provide us with any insight into the distinction between category mistakes and (categorially matched) trivia.

This approach seems correct, and puts pressure on any defender of an unrestricted generality constraint to somehow conjure up a way to explain the strangeness of category mistakes. Category mistakes are useless in the specific sense of being ill-suited to serve as the basis of hypothetical reasoning. It is useless, for example, to propose that we reason under the assumption that "Caesar is a

prime number." This differs from the uselessness of a phrase such as "There are an even number of blades of grass on the lawn."

Camp reduces what the constraint requires to "at a minimum, then, to grasp a string's inferential role, one must understand and exploit one's understanding of both the meanings and the combinations of the words in that string,"[24] an inferential role being "the core set of inferences a thinker needs to be able to draw in order to be considered competent in the use of a thought's constitutive concepts."[25] This is all that Camp claims is required for a cross-categorial phrase to not be nonsense.

Although correct, this claim still isn't strong enough. It is not enough to grasp the thought expressed by a claim to be able to draw inferences from that claim (particularly, since the inferences may be based on a metaphorical reading of the claim). To defend this view in a convincing way, one must supply a satisfactory account of what it is about category mistakes, if not their meaninglessness, that distinguishes them from more ordinary statements.

One might attempt to do so by arguing that category mistakes simply have fewer useful applications than do ordinary statements, as evidenced by the infrequency with which they appear in ordinary discourse. But while frequency of usage perhaps does say something, it says more about the conventions of thinking rather than thought itself.

[24] ibid. p 220.
[25] ibid. p 219.

The notion of the usefulness of a concept warrants further investigation. When certain phrases are used to successfully convey information, some such phrases require a metaphorical or literal reading to be made sense of. The usefulness of these phrases depends on the concepts involved. Metaphors figure in language precisely because they restate properties creatively, and this requires grasping the conditions that make thought coherent. But in dealing with phrases such as "Caesar is a prime number," it doesn't appear that we are entertaining a thought about his metaphorical counterpart. Caesar and prime numbers do not have any conceptual resemblance and appear to share no relevant properties.

So what remains to be explained is not what metaphorical readings give us, but what literal readings give us, if anything at all. When we suppose for the sake of the argument that Caesar is a prime number, the Caesar about which we are reasoning no longer shares any interesting properties with the Roman Emperor Julius Caesar. Perhaps the only property it shares is the property of being referred to by the name "Julius Caesar." Generally speaking, however, we are uninterested in reasoning about Caesar under the bare description "that which is named Caesar," hence the uselessness of the supposition.

[Section 1 - Conclusion]

Although Camp's account successfully argues that it is a mistake to place categorial restrictions on conceptual significance, the argument only provides an account of why a restricted constraint makes less sense than a fully general constraint.

This account relies on the apt observations that cross-categorial propositions such as "Juliet is the sun" and "Matter is energy" may seem to be category mistakes when, in fact, "Juliet is the sun" conveys literary meaning and modern science regards "Matter is energy" as true. However, this does not give us enough to explain the difference between these two phrases, nor do these sorts of propositions exhaust all of the possible types of thoughts we entertain. And because these observations don't particularly answer the question of what it means for Caesar to be a prime number, any account based on these sorts of examples remains incomplete.

Even if one accepts the claim that mode of combination and meaningfulness at word and sentence level are the *only* things necessary for propositions to have inferential roles, and does not find this remotely suspicious, it certainly seems questionable to leave any potential proponents of categorial restriction views with the onus of testing this claim.

If there is a way to formulate a fully strong interpretation of an unrestricted constraint, then it must be able to provide a counter-example for the claim that "there is no good reason to deny that cross-categorial predications with inferential roles also have truth-conditions."[26] Although it may not be the task of the constraint to explain what thoughts *mean*, any account of how the constraint deals with category mistakes must also explain how a thinker entertains these apparently meaningless thoughts -- not concede that they can't be entertained.

[26] ibid. p 212.

Section 2- The Problem isn't Categorial

In this section, I shall argue that Camp's account is only correct up to the notion of metaphor and normal application, while still not explaining what it means to grasp category mistakes (i.e., what it *actually* means to grasp the thought that Caesar is a prime number). Because the constraint, if properly inoculated against category mistakes, still has the onus of explaining genuine category mistakes, which Camp's view stops short of doing. Towards this aim, I shall introduce a solution that relies on a theory of *counterparts* (objects which resemble another object in some relevant sense in terms of the properties possessed by an object's counterparts in other worlds),[27] and the concept of *diffeonyms* (objects that can be differentiated in all ways up to name).[28] This will show that the constraint can accommodate phrases of the same sort as "Caesar is a prime number."

While Camp defends the constraint without restrictions because this provides support for the intuition that metaphors and scientific discourse are meaningful, her account does not take up the task of explaining "the most absurd combinations of concepts, like Caesar is a prime number."[29] Furthermore, Camp claims that human thought doesn't fully satisfy the ideal of the strong interpretation,

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[27] Adapted from concepts in David K Lewis, "Counterpart Theory and Quantified Modal Logic," *The Journal of Philosophy* 65, no. 5 (1968): 113–126.
[28] As defined for this thesis, this captures the intuition that for the objects A and A' to be *diffeonymic* means that these objects have in common no relevant properties except for "being named A."
[29] Camp, "The Generality Constraint and Categorial Restrictions." p 216.

stating that "we also fall short of full generality: precisely because certain potential thoughts are so absurd, it's unlikely that anyone would ever think them or utter sentences expressing them in any practical context."[30]

I shall argue that this is not the case and that human thought does indeed conform to the constraint in its unrestricted form, and, as such, that category mistakes such as "Caesar is a prime number" have cognitive significance, not only when read as metaphors but also when used literally. To defend this view in a convincing way will require a satisfactory account of what it is about category mistakes, if not their meaninglessness, that distinguishes them from more ordinary statements.

One might attempt to provide such an account by arguing that category mistakes simply have fewer useful applications than do ordinary statements, as evidenced by the infrequency with which they appear in ordinary discourse. But while frequency of usage perhaps does say something about a concept, it says more about the conventions we can observe about how we think rather than the systematicity of thought. Even if whatever makes "Caesar is a prime number" an accurate statement doesn't resemble Caesar or a prime number when read literally, this still means the proposition issues a counterfactual claim. This challenges Camp's claim that the constraint can handle category mistakes because proper

[30] Elisabeth Camp, "Putting Thoughts to Work: Concepts, Systematicity, and Stimulus-Independence*," *Philosophy and Phenomenological Research* 78, no. 2 (2009): 275–311. p 306.

syntax and meaningful content are all that suffice for propositions to possess inferential roles.

[Subsection 2.1] Cross-Categorial Strings

Evans originally formulated the constraint with "a proviso about the categorial appropriateness of the predicates to the subjects."[31] This means that while a thinker must be able to entertain variations of the propositional content of his thoughts, only “categorially well-matched” variations must be entertainable. At face value, the proviso ensures that the constraint doesn't require that thinkers must be able to think the thoughts are expressed by category mistakes, i.e., propositions formed from concepts that appear in some sense to be categorially mismatched.

Without this proviso it seems that the constraint implies that being able to entertain the two thoughts expressed by the phrases "Caesar is an emperor of Rome" and "7 is a prime number" entails that one must also be able to entertain the thoughts that "Caesar is a prime number" as well as "7 is an emperor of Rome."

But since "Caesar is a prime number" and "7 is an emperor of Rome" don't seem to mean anything at all it follows that the constraint must somehow be restricted in such a way that despite one being able to entertain "Caesar is an emperor of Rome" and "7 is a prime number,” that agent won't be required to entertain the concepts of "Caesar is a prime number" or "7 is an emperor of Rome.”

Although "Caesar is a prime number" and "7 is an emperor of Rome" are grammatically correct and involve only meaningful words, neither appear to mean

[31] Evans, *The Varieties of Reference*. p 101.

anything. If so, neither "Caesar is a prime number" nor "7 is an emperor of Rome" satisfy the second premise of Camp's argument (propositions' mode of combination and meaningfulness entail possessing an inferential role).[32] This means that even without categorial restrictions, the constraint doesn't have to explain either "Caesar is a prime number" or "7 is an emperor of Rome," as they lack "the core set of inferences a thinker needs to be able to draw in the use of a thought's constituent concepts, and which determine the inferential power of the whole thought."[33]

If Camp's argument is correct, then the constraint does not need to accommodate Caesar being a prime number. But if a cross-categorial phrase really does turn out to have an inferential role, then it may not be apparent what a thinker must grasp to make it count as a significant thought. It could be that "Caesar is a prime number" doesn't literally mean "Caesar is a prime number," but metaphorically makes another claim, and when one entertains that thought one actually entertains "Caesar rules Rome alone and indivisibly."

Propositions don't necessarily have to pair concrete or atomic objects and properties, as the constraint also allows combining ideas and concepts.[34] Because a thinker can predicate whole propositions as subjects, abstract elements can be strung together just as easily as any other object or property. This lets one extend concepts into metaphors by building compound, cross-categorial propositions. While it is a rather odd political slogan, one can appreciate that "Caesar is a prime

[32] Camp, "The Generality Constraint and Categorial Restrictions." p 222.
[33] ibid. p 219.
[34] Evans, *The Varieties of Reference*. p 110f.

number" could plausibly stand in for "Caesar rules Rome alone and indivisibly." Because one can still read "Caesar is a prime number" metaphorically, and because metaphorical propositions should still possess truth conditions, there is more at work than just meaning and mode alone bestowing an inferential role. Although inferential roles may not be clearly defined, the contents of thought possess truth conditions contingent upon whether a thinker can imagine conditions in a possible world or state of affairs, that if satisfied will make this content accurate.

This does not imply that truth conditions and inferential role are equivalent. A metaphor may be composed of several ideas and concepts, but this may not mean that all of Caesar's properties apply to his suppositional counterpart. Determining which of Caesar's properties transport over intact easily follows when stating that Caesar rules Rome indivisibly, but which will transport over when he is a prime number remains unclear. Because the conceptual activity expressed when we entertain metaphors isn't the same as that which we engage in when taking phrases literally, treating category mistakes similarly to metaphors is a mistake.

Metaphors stand in for more elementary propositions, ones that definitely possess truth conditions. Because metaphor preserves properties and elementary propositions have truth conditions, it seems intuitive that metaphors should somehow inherit their counterparts' truth conditions. Whether truth conditions function the same way as do other properties, and whether possessing truth conditions means the same thing as serving in an inferential role, however, cannot

yet be answered. But, intuitively, category mistakes, if they have truth conditions, won't inherit the truth conditions of their counterparts.

[Subsection 2.2] Truth Conditions

It may seem tempting to shift the debate between categorial appropriateness and full generality by reframing the nature of cross-categorial content as a matter of whether this type of content possesses truth conditions rather than if it plays a determinate inferential role**.** However, this confounds the dilemma further, rather than giving an account of how the constraint, strong and unrestricted, handles category mistakes. To see this more clearly requires first separating inferential role from truth conditions.

While inferential roles mean that a proposition has significance and that a thinker demonstrably understands it, truth conditions determine whether the content of a proposition adequately explains some state of affairs, in some possible world. So for Caesar to be a prime number to be accurate, that claim must describe the role that the proposition plays in hypothetical or suppositional reasoning.

To begin to see this requires distinguishing metaphors' truth conditions from those of literal phrases. Consider a disjunctive proposition, (P), where "X is P" means either "X is the number 6," ***or*** "X is Q" (Q is a number that has a complicated mathematical property that takes an exorbitantly long time to compute for any given number).

When we say that "6 is P," we have conditions for truth. For any other number *x*, we don't know whether *x* is P or not. Perhaps 7 has property Q. In this case, "7 is P" is true and to grasp that "6 is P" should entail also knowing that "7 is P." But if 7 doesn't have the property Q, then "7 is P" is not a valid inference to make. Even if it were, because Q is too complex to intuit for an arbitrary number, not only does (P) have truth conditions and satisfies both the mode and meaningfulness premises of Camp's argument, nothing can be inferred from (P) that can't be inferred from "6 is 6." This challenges Camp's claim that inferential role informs how the constraint operates. (P) and "6 is 6" share an inferential role but not truth conditions.

(P) has truth conditions for some number x other than 6 being P, while there is no other number besides 6, such that "x = 6." So having truth conditions alone won't provide insight into what can be inferred from a proposition, but inferential role doesn't mean anything without truth conditions, as truth conditions make statements meaningful. Although a trivial observation, a minimal notion of inferential role would require only that one can grasp "6 is P" in order to know what (P) means. Because this says nothing about what it means for a thinker to entertain "7 is P," "8 is P," and so on, a proposition's inferential role and its truth conditions are equivalent only in the case when "6 is P," and different for any other case. This means that some propositions can have truth conditions without having an inferential role.

[Subsection 2.3] Truth Conditions of Metaphors

Because metaphors can be read several ways, metaphors are disjunctive propositions of the same sort as (P). We could list out potential counterparts of the subject of a metaphorical phrase that could possess some of the relevant properties we wish to convey when we entertain that phrase. As a schema:

0) Juliet is the sun, which means (1) or (2) or (3) or (i) or ...

1) Juliet brings warmth

2) Juliet is what everything revolves around

3) Juliet is necessary for living

i) Juliet is ... [property]

In the case of a disjunctive proposition, only one possible scenario needs to be accurate for the whole cross-categorial phrase to be significant. Because grasping one accurate case should enable one to infer something about other accurate cases, having both a non-trivial inferential role and conditions for truth should give strong enough grasp of what so-called category mistakes mean.

When William Shakespeare wrote "Juliet is the sun," he intended this to mean a certain cross-categorial phrase that can be transliterated into what he specifically had in mind. When one reads that "Juliet is the sun," one entertains a wide range of possible candidates for which that metaphor is a counterpart. Any one of those elementary propositions may be true, or all of them, for the metaphor to be significant. So, even if Shakespeare only meant Juliet's counterpart who "is necessary for living," his intention might not be preserved when we think about

Juliet being the sun. Because the truth conditions of this statement depend on the situation Shakespeare imagined his characters being in at the time he wrote "Juliet is necessary for living," and this may not be available to a reader, there is no guarantee that some proposition having an inferential role entails that it has concrete truth conditions.

With metaphor, one extends an object and can compare similar properties between an object and its counterpart, but with literal readings, it will be shown that one pares down the properties of an object until its conceptual counterparts bear only a vague resemblance.

[Subsection 2.4] Literal Readings

Category mistakes do have truth conditions. It makes sense to ask whether "Caesar is a prime number," and, presumably, it is not in the case in the real world. The uselessness of category mistakes instead derives from the fact that they cannot support hypothetical reasoning, in the sense that to suppose that "Caesar is a prime number is true," amounts to no more than supposing that "X is a prime number" is true, for any non-numerical X.

Because inferential roles and truth conditions are not as inseparable as Camp's argument may have made it seem, the question of category mistakes becomes much more interesting if we don't allow metaphor. To fully appreciate this requires understanding what it means to read "Caesar is a prime number" literally.

The weak claim is that "Caesar is a prime number" is a metaphor. A stronger claim is that these kinds of phrases have a literal sense, that is, "Caesar is a prime number" has a literal meaning. The problem is that metaphors are not a concrete class of cross-categorial phrase. Rather, they are cross-categorial strings read metaphorically. They can be read literally as well.

Reading some of the previously introduced propositions will elaborate the counterfactual claims each makes. "Caesar is a prime number" differs from "8 is a prime number" in that while both seem to be analytical falsehoods, the latter can serve in a role from which certain things can be reasoned, namely that 8 isn't a prime number. By definition, even numbers greater than 2 can't be prime numbers. One can stipulate that 8 is a prime number anyways. Doing so in the context of constructing a proof by contradiction. In this usage, certain properties of 8 are preserved, e.g. it is an even number divisible by 2. So what follows from is the inference that this assumption leads to a contradiction.

The inferential roles in "8 is a prime number" and "Caesar rules Rome alone and indivisibly" differ. In "8 is a prime number," because 8 can only be a prime number by stipulation, a valid inferential role followed from a statement with no truth conditions. Yet for "Caesar rules Rome alone and indivisibly," because no literal reading of Caesar and being prime provides a counterpart from which anything can else can be inferred, truth conditions exist because it is still possible to imagine some counterpart of Caesar, Caesar Prime, inhabiting some possible world.

[Conclusion]

According to this standard, even analytical falsehoods may not be categorially mismatched, as in “8 is a prime number.” But what, if anything, would make Caesar a prime number ever be meaningful depends little on Caesar Actual or any of the properties about prime numbers. Perhaps Caesar Prime and Caesar Actual both share identical truth conditions. It would then follow that we would have a counterpart of Caesar, stripped of as many properties as it takes to make accurate the predication "is a prime number." It turns out that the Caesar for which this is true, is not very interesting to reason about -- it is a counterpart whose sole property is just "that which is named Caesar."

Because Caesar's truth conditions are either a property of Caesar or contingent on his properties, for Caesar to literally be a prime number means one has extended a thought about Caesar that preserves almost none of his properties, up to "Caesar" just being the name bestowed upon a generic object. So grasping an otherwise conceptually flat thought allows one to make any number of generalizations -- that "George W. Bush is a prime number," "Unicorns are prime numbers," or anything else -- as these objects are the otherwise property-less counterparts of more concrete subjects. All of these are true under the same conditions as when "Caesar is a prime number" is true.

These are diffeonyms: subjects and counterparts that we can differentiate from each other for all properties up to name. Because all of these have identical truth conditions, and are generic objects extended only by having different,

arbitrary names, this notion of forced truth conditions shows that the constraint applies to propositions even if they can't be read metaphorically or serve a role for hypothetical reasoning.

When read literally, any proposition can have truth conditions by substituting in a suitably similar counterpart, stripped of enough properties, and giving up the notion of inferential role. This applies to propositions that otherwise appear to be category mistakes, the boldest of which have the strongest truth conditions and no inferential roles. Even if it is erroneous to think of "being true of X" as an object's property in the way that a color or shape both are, "being named X" certainly is a property that can be extended over concepts, so diffeonymic counterparts offer a solution that resolves the problem of how, even on a strong interpretation, the constraint can be reconciled with category mistakes.

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