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## ARE GENERAL TERMS RIGID?\*

## I

On Kripke's intended definition, a term designates an object  $x$  *rigidly* if the term designates  $x$  with respect to every possible world in which  $x$  exists and does not designate anything else with respect to worlds in which  $x$  does not exist. Kripke evidently holds in *Naming and Necessity*, hereafter *N&N* (pp. 117–144, *passim*, and especially at 134, 139–140), that certain general terms – including natural-kind terms like “water” and “tiger”, phenomenon terms like “heat” and “hot”, and color terms like “blue” – are rigid designators solely as a matter of philosophical semantics (independently of empirical, extra-linguistic facts). As a consequence, Kripke argues, identity statements involving these general terms are like identity statements involving proper names (e.g., “Clark Kent = Superman”) in that, solely as a matter of philosophical semantics, they express necessary truths if they are true at all. But whereas it is reasonably clear what it is for a (first-order) singular term to designate, Kripke does not explicitly say what it is for a *general* term to designate.<sup>1</sup> General terms are stan-

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\* The present article was presented to the interdisciplinary Princeton Workshop on Semantics in May 2003, where Robert May was commentator. I am grateful to May and the other discussants for their reactions, especially Scott Soames. I am also grateful to May for subsequent correspondence. I respond below to what I take to be his central criticisms. The reader is hereby cautioned, however, that I do not know the extent to which those criticisms represent his current thinking. Thanks go also to Alan Berger, Delia Graff, and Teresa Robertson for discussion.

<sup>1</sup> The phrase “singular term” is used throughout as a meta-linguistic term for any object-language expression of a certain logical *type* – specifically, any first-order expression whose primary logico-semantic function is to designate (with respect to a given context, time, place, and possible world, and under a given assignment of values to variables) a single individual, and which attaches to (or fills an argument place of) a first-order predicate to form a (open or closed) formula. A general term, by contrast, is of a logical type that is potentially applicable (with respect to semantic parameters) to any number of individuals.

dardly treated in modern logic as predicates, usually monadic predicates. There are very forceful reasons – due independently to Church and Gödel, and ultimately to Frege – for taking predicates to designate their semantic extensions.<sup>2</sup> But insofar as the extension of the general term “tiger” is the class of actual tigers (or its characteristic function), it is clear that the term does not rigidly designate its extension, since the class of tigers in one possible world may differ from the class of tigers in another. What, then, is it for “tiger” to be rigid?

In his recent book, *Beyond Rigidity* (Oxford University Press, 2002), Scott Soames considers the two interpretive hypotheses that he deems the most promising, strongly favoring one of the two (pp. 249–263, 287–288, and *passim*). On the preferred interpretation, a general term is *rigid*, by definition, if it expresses a property (e.g., being a tiger) that is essential to anything that has it at all, i.e., a property of an object that the object could not fail to have (except perhaps by not existing). Soames characterizes this hypothesis as a “natural extension” to predicates of *N&N*’s definition of singular-term rigidity.<sup>3</sup> I

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Footnote 1. (*Continued*)

In the English sentence “Tony is a tiger”, “Tony” functions as a singular term, “tiger” as a general term. (See footnote 13 concerning the copula.) Proper names, personal pronouns, and individual variables are taken to be paradigm cases of singular terms, whereas common nouns, most adjectives (other than determiners), and intransitive verbs are taken to be paradigm cases of general terms. In the spirit of the literature on possible-world semantics and rigid-designator theory (dating back at least as far as John Stuart Mill), I assume for the most part that an English first-order definite description, ‘the *NP*’, is a singular term – ignoring the prospect that it is instead (in the rival spirit of Bertrand Russell and Richard Montague) a first-order uniqueness-restricted quantifier equivalent to ‘a unique *NP*’.

<sup>2</sup> Cf. my *Reference and Essence* (Princeton University Press and Basil Blackwell, 1981), at pp. 48–52. The *metaphysical extension* of a property *P* (in a possible world *w* at a time *t*) =<sub>def</sub> the class of possible objects that have *P* (in *w* at *t*). The *semantic extension* of a predicate  $\Pi$  (with respect to semantic parameters) =<sub>def</sub> the metaphysical extension of the property semantically expressed by  $\Pi$  (with respect to those same parameters). The *metaphysical intension* of a property *P* =<sub>def</sub> the function that assigns to any possible world *w* (and time *t*) the metaphysical extension of *P* in *w* (at *t*). The *semantic intension* of a predicate  $\Pi$  =<sub>def</sub> the metaphysical intension of the property semantically expressed by  $\Pi$ .

<sup>3</sup> Cf. pp. 251–252. Soames defended this interpretive hypothesis at an international conference on Kripke’s work at the *Instituto de Investigaciones Filosóficas, Universidad Nacional Autónoma de México*, Mexico City, October 1996, which Kripke and I both attended. The other interpretive hypothesis that Soames considers is mentioned below in footnote 11.

deem it a non-starter. One obvious problem with the proposal is that color terms then emerge as non-rigid, contrary to Kripke's apparent labeling of them as rigid. Also the definition does not provide any obvious candidate to be the rigid designatum of a predicate like "is a tiger". The proposal might be based on a notion of *poly-designation*, whereby a predicate "designates" one by one each of the things individually to which the predicate correctly *applies* semantically, i.e., each of the elements of the semantic extension.<sup>4</sup> A predicate for an essential property applies to anything *x* that has the property in question with respect to every world in which *x* exists, while a predicate for an accidental property does not do this. But an essential-property predicate equally applies to the other things *y* in its extension besides *x*, and *does so with respect to worlds in which x does not exist*. This interpretation, therefore, does not fit the intended definition of rigid designation.

If the predicate "is a tiger" is to be regarded as designating the property of being a tiger (rather than as multiply designating each individual tiger, and rather than as designating the class of actual tigers), then it would appear that any predicate should be seen as designating the property that it expresses. But in that case, every predicate, even "is a bachelor", emerges as a rigid designator, since the attribute (property or relation) expressed by a predicate with respect to a possible world does not vary from world to world. Nothing special about natural-kind predicates, color predicates, etc. has been identified to demarcate them from the rest. So it is that *N&N* leaves us with the question: What is it for a general term to be a rigid designator?<sup>5</sup>

One way to proceed that is more promising than the failed strategies Soames considers would be to define a notion of designation (*simpliciter*) for both singular and general terms in such a way that, applying the intended definition of rigid designation *as is*, without

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<sup>4</sup> Soames does not explicitly suggest this. On the contrary, he says repeatedly that a natural-kind predicate designates a natural kind. It is difficult to reconcile this idea with Kripke's labeling of natural-kind terms as rigid designators, on Soames's proposed interpretation of the latter. (My best guess is that Soames attempts to provide a reconstruction of the notion of rigidity for general terms that is divorced from the notion of designation.) Cf. Monte Cooke, "If "Cat" is a Rigid Designator, What Does it Designate?" *Philosophical Studies*, 37 (1980), pp. 61–64.

<sup>5</sup> Cf. *Reference and Essence*, pp. 44–54.

modification, a natural-kind general term (and a color general term, a natural-phenomenon general term, etc.) designates its designatum rigidly whereas some other sorts of general terms designate only non-rigidly.<sup>6</sup> What object, then, should a general term like “tiger” be said to *designate*? And which contrasting sorts of general terms designate only non-rigidly?

The first question has an obvious and natural response: The term “tiger” designates the species, *Tiger (Felis tigris)*. In general, a biological taxonomic general term should be seen as designating a biological taxonomic kind (a species, a genus, an order, or etc.), a chemical-element general term (“gold”) should be seen as designating an element (gold), a chemical-compound general term as designating a compound (water), a color general term as designating a color (red), a natural-phenomenon general term as designating a natural phenomenon (heat), and so on. The semantic content of a single-word general term might then be identified with the designated kind (or the designated substance, phenomenon, etc.). So far, so good. But now the threat is faced anew that every general term will emerge as a rigid designator of some appropriately related universal or other. If “bachelor” designates the gendered marital-status category, *Unmarried Man*, it does so rigidly. Even a common-noun *phrase*, like “adult male human who is not married”, emerges as a rigid designator.

## II

Such is the notion of designation for general terms that I proposed in *Reference and Essence* (pp. 52–54, 69–75), and which I continue to believe is fundamentally correct.<sup>7</sup> Soames objects on the grounds

<sup>6</sup> Soames complains (p. 248) that Kripke’s original definition of rigidity is restricted to singular terms. I see no conclusive evidence of this in Kripke’s writings. I assume instead that the notion of designation *simpliciter* that Kripke invokes extends to general terms (as does, for example, the notion of designation invoked in the work of Carnap). I believe Kripke intended his definition of rigidity to apply to general as well as singular terms. (It is possible that *N&N* uses the word “reference” for the special case of singular-term designation.)

<sup>7</sup> See also Joseph Laporte, “Rigidity and Kind,” *Philosophical Studies*, 97, 3 (2000), pp. 293–316.

that “there is no point in defining a notion of rigidity for predicates according to which all predicates turn out, trivially, to be rigid” (p. 251).<sup>8</sup> Ultimately he decides that there is no notion of rigidity that is simultaneously analogous to singular-term rigidity, a natural extension of singular-term rigidity to general terms, and a notion on which certain general terms (especially, natural-kind terms) are rigid but many other general terms are non-rigid (p. 263). And this, he argues, paves the way for a “demotion of the status of rigidity in Kripke’s overall semantic picture” of terms singular and general (p. 264).

I sharply disagree. It is true that Kripke’s thesis that proper names and certain general names alike, including natural-kind terms, are rigid designators is secondary to a more fundamental thesis: that these names are *non-descriptonal*.<sup>9</sup> However, the corollary that they are therefore rigid is correct, and its philosophical significance should not be missed or undervalued. Soames’s discussion suffers from a failure to distinguish sharply between a general term like “tiger” and its corresponding predicate, “is a tiger”. Even if every common count noun (whether a single word or a phrase) emerges as a rigid designator on my counter-proposal, it does not follow that every general term is rigid. As Bernard Linsky noted in an unduly neglected paper,

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<sup>8</sup> On Soames’s “Extended Millianism” (pp. 278–279), the content of a natural-kind phrase like “matter sample composed exclusively of molecules consisting of two hydrogen atoms and one oxygen atom” is a property, whereas the content of a single-word natural-kind term like “water” is a natural kind (which Soames identifies with the metaphysical intension of a property). This account makes room for a distinction between descriptonality (connotativeness) and non-descriptonality for some general terms analogous to John Stuart Mill’s insights concerning definite descriptions and proper names, though only among natural-kind general terms and the like. (Mill, by contrast, classified all general terms as “connotative”.) Although Soames opposes extending this account to all general terms – presumably on the ground that doing so would render even an institutional-kind term like “bachelor” a rigid designator – there is no obvious principled reason why single-word non-natural-kind terms should differ from single-word natural-kind terms (and single-word color terms, single-word natural-phenomenon terms, etc.) in this respect. I suspect there is no such deviation. See footnotes 14 and 23.

<sup>9</sup> Or not descriptonal in a certain way; cf. *Reference and Essence*, Chapters 1–2, especially pp. 14–23, 32–36, 42–44, 54–56.

some general terms, in fact, are manifestly non-rigid.<sup>10</sup> This is most evident with certain English definite descriptions. Definite descriptions are typically singular terms – or alternatively (following the great philosopher-lord), quantificational expressions that go around impersonating singular terms – but some English definite descriptions, unlike ordinary singular terms, function rather as if they were adjectives or, more likely, mass-noun phrases. One example is the description “the color of the sky”, as it occurs in the sentence

(P1) My true love’s eyes are the color of the sky.

Soames sees the definite description in the predicate of (P1) as a singular term rather than a general term (p. 261).<sup>11</sup> Yet the copula “are” here cannot be the pluralization of the “is” of identity, since the color blue is a single universal whereas the speaker’s lover’s eyes are two particulars, and hence not both identical to a single thing. Nor can the copula be the so-called “is” of constitution. One might argue that the copula in (P1) is a fourth kind of “is”, over and above the “is” of predication, the “is” of identity, and the “is” of constitution: the dyadic “is” of possession. Soames is evidently committed to positing such an alternative sense. This rather strained account raises the question of why “to have” should come to masquerade as “to

<sup>10</sup> Bernard Linsky, “General Terms as Designators,” *Pacific Philosophical Quarterly*, 65 (1984), pp. 259–276. See also John Heintz, *Subjects and Predicables* (The Hague: Mouton, 1973), at p. 88. Although my account differs significantly in certain details from Linsky’s (cf. footnote 22 below), I have benefited from his observations. In particular, as Linsky notes, it is highly likely that the notion of a general-term definite description (a “definite ascription”) underlies Kripke’s labeling of certain contrasting general terms as *rigid designators*. (See footnote 25 below concerning Kripke’s reaction to this alternative to Soames’s preferred account.)

<sup>11</sup> More accurately, he sees the description as a quantifier phrase, which he “assimilates to the broader class of singular terms” (p. 316n17). Soames neither sees the description in (P1) as a general term nor assimilates it to one.

I presented my objections to Soames’s proposed interpretation of *N&N*, as well as this counter-proposal regarding designation, in the discussion following Soames’s paper at the 1996 *Universidad Nacional Autónoma de México* conference on Kripke. (See footnote 3 above.) There is some discussion in Soames that was evidently prompted by my objections and counter-proposal, but in which he considers instead a significantly different proposal (one which I reject), according to which a general term (“predicate”) is to be labeled *rigid*, or *non-rigid*, according as some relevantly associated *singular* term is rigid or not (pp. 364n9, 260–262, 289–292, 307–311). Soames objects that on the counter-proposal he considers, every general term (“predicate”) is rigid. This contradicts the very point of (P1), as it is intended. (Soames does not consider the prospect that the description “the color of the sky” functions as a general term rather than a singular term.)

be”. It is considerably more plausible that the “are” in (P1) is the very same copula that occurs in

(C) My true love’s eyes are blue

*to wit*, our old and dear friend, the “is” of predication (in its pluralized conjugation). This common form of “be” cannot coherently combine with an English expression functioning as a (first-order) singular term to form a meaningful English predicate. Any English term (or English expression that functions as a term when occurring in a predicate) that combines with the “is” of predication to form a monadic predicate, must function as a general term in the predicate so formed.<sup>12</sup> (I take these principles to be partly “criterial” of the distinction between singular and general terms.) Just as the adjective “blue” is a general term in (C), so the definite description “the color of the sky” is a general term in (P1). The former rigidly designates the color blue; the latter designates the color non-rigidly.

How can a definite description combine with the “is” of predication while designating something? In the same way as the adjective “blue” or the mass noun “water”. Let us formally represent the copula in “is blue” as a predicate-forming operator on adjectives (whether single words or adjective phrases) and mass nouns, “*is* { }”, and let us represent the “is a” in “is a tiger” as a similar predicate-forming operator on count nouns, “*is-a* { }”, so that the predicate “is blue” is formalized as “*is* {blue}” and the predicate “is an albino tiger” as “*is-a* {albino tiger}”.<sup>13</sup> The term “the color of the

<sup>12</sup> See footnote 1. Numerous linguists and philosophers have argued that a first-order definite description following the verb “be” is at least often a general term (or “predicate”), and the copula the “is” of predication rather than the “is” of identity. See, for example, George Wilson, “On Definite and Indefinite Descriptions,” *The Philosophical Review*, 87 (1978), pp. 48–76; and Delia Graff, “Descriptions as Predicates,” *Philosophical Studies*, 102, 1 (January 2001), pp. 1–42. If a first-order definite description can combine with the “is” of predication to form a monadic predicate, then the description must function predicatively in the predicate so formed rather than as a singular term.

<sup>13</sup> In light of the previous note, it might be advisable to introduce also a third predicate-forming operator, “*is-the* { }”, whereby “*is-the*{author of *Waverley*}” is equivalent to “*is-a*{unique author of *Waverley*}”.

I remain neutral here concerning whether the copula in “Tony is a tiger” is the “is” of predication or the “is” of identity (“is identical with some tiger”). If it is the latter, the predicate-forming operator “*is-a*” may have a complex definition invoking existential quantification and identity. Some device may still be needed, however, to convert the count noun into a predicate, as for example in:

sky” may then be formally rendered as a second-order definite description:

$$(\lambda F)[is-a^2\{color\}(F) \ \& \ is\{F\}(\text{the sky})],$$

where “ $F$ ” is a variable ranging over appropriate universals. (The superscript “2” indicates that the resulting predicate is second-order.) As a second-order term, the description designates even while combining felicitously with the “is” of predication.<sup>14</sup> Indeed, so understood, (C) is a straightforward logical consequence of (P1) taken together with the empirical premise,

(P2)     Blue is the color of the sky.

This inference is best seen as a special instance of Leibniz’s Law, or Substitution of Equality. In the words of a great English poet, it’s easy if you try. According to (P2), the color blue is identical with the color of the sky. Since the speaker’s true love’s eyes are the color of the sky, it follows by Substitution that those same eyes are blue. All you need (besides love) is to see the copula in (P2) for what it surely is: an “is” of identity, attached to general terms instead of singular terms, and forming a sentence that is true if and only if the terms flanking the “is” are co-designative.

Formalization of the inference might help to make the point:

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Footnote 13. (*Continued*)

$$(\lambda F)(\lambda x)[(\exists y)(\{F\}\text{-izes}(y) \ \& \ x = y)]$$

where the “-izes” operator applies to a count noun to yield a predicate (see footnote 22). Since an analysis of indefinite descriptions combined with “be” to form a monadic predicate does not eliminate the need for converting a count noun into a predicate, it may be more plausible to see the indefinite article in such constructions as syncategorematic – a purely cosmetic grammatical convenience (or inconvenience!) – rather than as signaling its alternative function as an existential-quantificational operator.

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<sup>14</sup> Using this formal device one may even form non-rigid count-noun general terms, e.g.

$$(\lambda F)[is-a^2\{gendered\ marital\text{-}status\ category\}(F) \ \& \ is-a\{F\}(\text{Hugh Hefner})].$$

This application of the device to count nouns does not obviously correspond to any legitimate construction of English, but neither is there any obvious reason why such a construction could not be appended to English. (Sentences like (P1) might be taken as evidence that English already has some characteristics of a second-order formal language.)



- (P1')  $(x)[is-a\{\text{eye of my true love}\}(x)$   
 $\rightarrow is\{(\neg F)[is-a^2\{\text{colour}\}(F) \ \& \ is\{F\}(\text{the sky})\}\}(x)]$
- (P2')  $blue =^2 (\neg F)[is-a^2\{\text{colour}\}(F) \ \& \ is\{F\}(\text{the sky})]$
- $\therefore (C')$   $(x)[is-a\{\text{eye of my true love}\}(x) \rightarrow is\{blue\}(x)]$

(Then again, it might not.) The copula in (P2) is evidently the same “is” of identity that occurs in the conclusion of “There are exactly three volumes of Russell and Whitehead’s *Principia Mathematica*; therefore, three is the number of volumes of *Principia Mathematica*”. Soames contends instead (pp. 364n9, 289–290) that the syllable/vocable “blue” represents a pair of English homonyms: one an adjective (blue<sub>1</sub>), the other a noun (blue<sub>2</sub>) that is parasitic on the adjective. This perspective yields a markedly different rendering of the inference:

- (P1'')  $(x)[x \text{ is an eye of my true love}$   
 $\rightarrow Is(x, (\neg y)[y \text{ is a color} \ \& \ Is(\text{the sky}, y)])]$
- (P2'')  $blue_2 = (\neg y)[y \text{ is a color} \ \& \ Is(\text{the sky}, y)]$
- $\therefore (C'')$   $(x)[x \text{ is an eye of my true love} \rightarrow x \text{ is blue}_1]$ ,

where the dyadic predicate “*Is*” occurring in the premises represents the alleged “*is*” of *possession*. This argument, however, is invalid as it stands. The argument (and also the parallel invalid argument obtained by interchanging the major premise and conclusion) may be validated by supplementing the premises with a striking Carnapian “meaning postulate” (perhaps as a tacit premise): “Something is blue iff it is blue”, taken in the alleged sense of:

- (P3) Something is<sub>predication</sub> blue<sub>1</sub> iff it is<sub>possession</sub> blue<sub>2</sub>,

and formalized as

- (P3'')  $(x)[x \text{ is blue}_1 \leftrightarrow Is(x, \text{blue}_2)]$ .

But how plausible is it that both of the words “is” and “blue” making up the English predicate are ambiguous (quite independently of a third meaning, the “is” of identity), and in such a way that, solely as a matter of English semantics, the predicate applies under one meaning exactly when it applies under the other as well? Indeed, solely as a matter of English semantics, the two alleged readings would have to be *logically equivalent* – sharing not only the same semantic extension, and not only the same modal intension, but even the very same

logical content, i.e., the same function from models to intensions.<sup>15</sup> This degree of duplication – duplication of spelling, phonetics, structure, etc., and in addition, duplication of logical content – strongly suggests that something has gone wrong in the analysis. Rather than exposing an unnoticed convergence, our distinction without a difference more likely indicates an erroneous proliferation (“is<sub>predication</sub> blue<sub>1</sub>” vs. “is<sub>possession</sub> blue<sub>2</sub>”). The fact that the word “blue” can occur alternatively as a noun or as an adjective does not imply that the word is ambiguous with regard to semantic extension or intension, let alone that there are two words “blue” rather than one – let alone that there is in addition to the standard “is” of predication another predicative “is”, the alleged “is” of possession. To quote Kripke (slightly out of context): “It is very much the lazy man’s approach to philosophy to posit ambiguities when in trouble. . . . [The] ease of the move should counsel a policy of caution: Do not posit an ambiguity . . . unless there are really compelling theoretical or intuitive grounds to suppose that an ambiguity really is present” (“Speaker’s Reference and Semantic Reference”, p. 19).

### III

Robert May has argued in response to these considerations that insofar as “the color of the sky” is to be classified either as a singular term or as a general term, it is a singular term even in (P1).<sup>16</sup> He endorses this conclusion on the ground that definite descriptions are nominal phrases that can occur in positions occupied by singular terms – as, for example, in “Max and the color of the sky are two of my favorite things”. In addition, May cites the particular sentences,

<sup>15</sup> See my “On Content”, *Mind*, 101, 404 (October 1992), pp. 733–751, concerning the relevant notion of logical content. As I use the term, the *logical content* of an expression  $e$  is the function that assigns to any model  $Z$  for the language, the principal semantic value (classically the extension, in modal logic the intension) of  $e$  in  $Z$ . Meaningful expressions are logically equivalent when, and only when, they have the same logical content. For example, “ $(p \vee q) \wedge \sim (p \wedge q)$ ” and “ $\sim (p \equiv q)$ ” have the same logical content – since they have the same truth table – even if they do not have the same semantic content *simpliciter* (i.e., even if they express different propositions).

<sup>16</sup> “Comments on Nathan Salmon, ‘Are General Terms Rigid?’,” presented to the 2003 Princeton Workshop on Semantics.

“Max is the man for the job” (due to James Higginbotham) and the sarcastically understated “Max isn’t the best cook in town”, as further examples – allegedly like (P1) – of the “is” of predication combined with an English singular term rather than a general term to form an English monadic predicate.

As a rejoinder to May’s objections, and in order to clarify the position I am defending, I offer the following observations:

(i) The possibility of grammatically occupying singular-term position is a necessary condition on singular terms, not a sufficient condition. Mass terms in English, for example, can occur in singular-term position (“Water is H<sub>2</sub>O”, “Max and gin are two of my favorite things”), but they also occur in general-term position, combining with the “is” of predication to form English monadic predicates (“The liquid in this cup is water”). Likewise, canonical color terms and number terms (“three”) can occur in singular-term position (as in (P2) and “Nine is the number of planets”), but they also combine with predicational “be” to form a predicate (as in (C) and “The planets are nine”).<sup>17</sup> Contrary to May, the latter is something singular terms cannot do, at least not while functioning as singular terms, or even as first-order restricted quantifiers in the manner of Russell and Montague. (See footnote 1 above. The fact that mass terms and the like can occur grammatically in singular-term position in addition to general-term position might be taken as independent grounds for recognizing at least some general terms as *second-order singular terms*.)

(ii) English also includes sentences like “What I am is nauseous”, in which the subject is a general term – or, at least, would appear to be one. Indeed, this sentence appears to be an identity statement, and its subject a second-order definite description (or, alternatively, a second-order restricted quantifier). Insofar as English includes second-order definite descriptions, phrases like “the color of the sky”, “Henry’s favorite beverage”, and “the chemical compound composed

<sup>17</sup> The predicate formed by combining “be” with a canonical number term might be regarded as *multi-adic* (rather than as monadic, or dyadic, etc.). More accurately, such numerical predicates should be seen as applying collectively rather than individually (or equivalently, as applying to pluralities or multiplicities, i.e., to groups having a number which may be other than one). See my “Wholes, Parts, and Numbers,” in J. Tomberlin, ed., *Philosophical Perspectives 11: Mind, Causation, and World* (Atascadero, CA: Ridgeview, 1997), pp. 1–15.

of two parts hydrogen, one part oxygen” are as good candidates as any.<sup>18</sup> Although these descriptions can occur in singular-term position, they also combine with the “is” of predication to form monadic predicates, wherein they cannot function as singular terms. In fact, at least some of these same definite descriptions appear to function as mass-noun phrases and/or as color-term noun phrases. (Consider (P2') and “Water is the chemical compound composed of two parts hydrogen, one part oxygen”.) As such, these descriptions would be general terms rather than singular.

(iii) The copula in May’s examples – “Max is the man for the job” and “Max isn’t the best cook in town” – is normally and plausibly construed as the “is” of identity rather than the “is” of predication. For example, “Max is the man for the job” is logically equivalent to its converse, “The man for the job is Max”, and also to Russellian paraphrases of its identity construal – “Someone is both a unique man for the job and Max”, “Max, and no one else, is a man for the job”, etc. Likewise, “Max is the man for the job” supports Leibniz’s-Law substitution, e.g., “Therefore, Max speaks Japanese iff the man for the job speaks Japanese”. By contrast, (P1), on its relevant reading, is not equivalent to \**“Something is both a unique color of the sky and each of my true love’s eyes”*.<sup>19</sup> Neither does (P1) support logical substitution (e.g., #*“Therefore, my true love’s eyes have cataracts iff the color of the sky has cataracts”*). Since the copula in (P1), on its relevant reading, cannot be read as the “is” of identity, and should be read instead as the “is” of predication, the definite description does not function in (P1) as a singular term.

(iv) May’s claim that some first-order definite descriptions, like “the man for the job”, can combine with the “is” of predication to form an English monadic predicate, rather than with the “is” of

<sup>18</sup> The threat of Russell’s Paradox applies pressure to see some definite descriptions as differing from others in logical form, despite sharing the same syntactic form. The kinds that come readily to mind are always of the following sort (**R**): *a kind K that is not itself something of kind K*. The species, *Tiger*, for example, is not itself a tiger. (Indeed, precious few kinds are not of this kind (**R**.) Consider now the very kind just specified: the kind (**R**) such that, necessarily, something is of (**R**) iff it is a kind *K* that is not itself something of kind *K*. The preceding definite description, despite its syntax, cannot be first-order on pain of contradiction (assuming that it designates a kind, and assuming obvious logical properties of definite descriptions).

<sup>19</sup> The converse of (P1), \**“The color of the sky are my true love’s eyes”*, is acceptable only in stylized discourse, wherein it is a stylistic variant of the original (and the copula functions as the converse of the “is” of predication).

identity, is controversial. (See footnotes 12 and 13 above.) If the thesis is correct, the description in the predicate so formed is equivalent to a predicative indefinite description – as perhaps the indefinite description in “is a unique man for the job”. A predicative indefinite description (e.g., the phrase “a tiger” in the predicate “is a tiger”) is not a singular term, and does not function as one in its containing predicate. May’s examples therefore cannot be instances of a monadic predicate formed by combining the “is” of predication (functioning as such in the predicate) with a singular term (functioning as such in the predicate).<sup>20</sup>

(v) That “blue” and “the color of the sky” are general terms is a fact about logical form. It is not a fact about syntactic form – or about *grammar* in a syntactic sense of the term (which does not conform to current usage in theoretical linguistics). The following sentences, on their standard readings, have the same syntactic form.

- (1) Henry’s favorite shirt is the color of the sky
- (2) Henry’s favorite color is the color of the sky

Each is a copular sentence constructed from a definite description of the form ‘Henry’s favorite *N*’ as subject, the appropriate conjugation

<sup>20</sup> May contends that the definite description in “Henry is the best man for the job” may be seen as functioning simultaneously as a first-order singular term and predicatively. He argues that this dual function is illustrated by the definite description in “Oscar considers Henry the best man for the job”. This sentence provides no clear support for the claimed schizophrenia. On the contrary, the description cannot function in the latter sentence as a customary-mode singular term. If it did, it would support Leibniz’s-Law substitution, but it does not. (If Oscar judges Henry the best man for the job, while the best man for the job is in fact the man who is having an illicit affair with Oscar’s wife, it does not follow that Oscar considers Henry the man who is having an illicit affair with Oscar’s wife.) Neither does the description in “Oscar considers Henry the best man for the job” function straightforwardly predicatively – e.g., in the manner of the indefinite description in the predicate “is a unique best man for the job”. For, again, if the description functioned in the manner of a customary-mode, predicative, uniqueness-restricted, indefinite description, it would support logical substitution. Rather the description occurs in a non-extensional context of cognitive attitude; its function in “Oscar considers Henry the best man for the job” is the same as in “Oscar thinks that Henry is the best man for the job”. As Frege has taught us, the description here is not a singular term designating its customary designatum. Rather it is in *ungerade* (oblique, indirect) mode, designating its *ungerade* designatum, which is its customary content. Moreover, as Frege also noted, the customary content is (in some sense) objectual rather than function-like, so that the description also does not function predicatively. In sharp contrast, the description in (P1) is in customary mode, wherein it designates its customary designatum, the color blue.

of the verb “be” as copula, and the definite description “the color of the sky” as predicate nominal. Nevertheless, they differ sharply in logical form. Sentence (1) is a monadic predication, whereas sentence (2) is (equivalent to) an identity/equation, on a par with (P2) and with May’s examples (e.g., “Max is the man for the job”). Correspondingly, (2) is logically equivalent to its converse and supports Leibniz’s-Law substitution; (1) is not and does not.

It would be a mistake to infer that, since they differ in logical form, (1) and (2) also differ in syntactic/grammatical form. Compare the following two sentences, on their standard readings.

- (3) Henry’s favorite shirt is blue
- (4) Henry’s favorite color is blue,

These sentences are semantically related exactly as (1) and (2). All four sentences, (1)–(4), share a common syntactic structure. Like the pair (1) and (2), (3) and (4) differ in the replacement in their subjects of “shirt” by “color” (count nouns both), and are otherwise structurally identical. Here the lexical switch in the subject issues a categorial (non-structural) switch in the predicate. The word “blue” occurs as an adjective in (3), as a noun in (4), reflecting the change in logical form. This grammatical switch in the predicate does not occur with (1) and (2). As already noted, abstracting from their meanings and their logic – which are indeed very different – (1) and (2) share the same syntactic analysis in terms of both constituent structure and lexical and phrasal categories. Yet the same change in logical form that occurs in (3) and (4) also occurs in (1) and (2), where it is concealed behind a veil of superficial syntactic similarity. Though “the color of the sky” is a nominal phrase, it plays exactly the same logico-semantic role in (1) and (P1) that the adjectival “blue” plays in (3) and (C) – a role reflected in the grammar of the word but not in that of the description.<sup>21</sup>

Here again, contrary to May, recognition that the copula in (P1), on its standard reading, is the same “is” of predication that occurs in (3) and (C) reveals that the predicate nominal in (P1) – regardless of

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<sup>21</sup> The original version of the present paper, to which May replied, used the word “adjectival”, inadvisably, in a logico-semantic (and consequently artificially broad) sense, to include any term whose logical form allows it to combine with the “is” of predication, without an intervening article, to form a monadic predicate (one that is not logically equivalent to the result of combining instead with the “is” of identity).

its syntax – is a general term, since a term that combines with the “is” of predication (without an intervening article) to form a monadic predicate cannot function as a singular term in the predicate so formed.

(vi) Having misclassified “the color of the sky” as a (first-order) singular term, May is prepared to classify the copula in (1) and (P1) as an expression that sometimes operates on a singular term to form a monadic predicate. The predicate-forming operator “*is* { }” in (P1') and (C') is not an operator of this sort. On the other hand, the envisioned “is” of possession in (P1'') is exactly that. And indeed, May defends the second analysis of the argument about my true love's eyes. May's stance thus fails to appreciate the implausibility of its commitments, e.g., that each of the words making up the English predicate “is blue” has two separate readings (independently of a third meaning – the “is” of identity), but only in such a way that, solely as a matter of English semantics, the two resulting readings of the predicate are logically equivalent.

Given that the noun/adjective “blue” designates the color blue, that the definite description “the color of the sky” designates the

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Footnote 21. (*Continued*)

If I am correct, this class includes at least mass terms and some second-order definite descriptions, which are nominals rather than adjectival. Some of May's original criticisms were directed at showing that the central example, “the color of the sky”, is grammatically not an adjective phrase but uniformly a noun phrase. This observation, though correct, is irrelevant to my argument.

It is at least likely that each of (1)–(4) has a non-standard, surrealistic reading on which it has the same logical form that its pair-mate has on its standard reading. Thus (1) might be read as expressing that a certain particular (a shirt) and a certain universal (a color) are one and the very same thing; (2) might be read as expressing the alternative category mistake that a certain universal is colored. (Some deny that (1)–(4) have these alternative readings. But the very fact that one can routinely dismiss such readings as category mistakes seems to indicate that we have *some* understanding of the sentence on the purported alternative reading. Mere gibberish does not express a category mistake or anything else.) Insofar as each of the sentences has an alternative, surrealistic reading in addition to its standard reading, the ambiguity of (3) is grammatically signaled by a toggle between adjectival and nominal “blue”. Similarly for (4). There is no such toggle accompanying the ambiguity in (1), nor that in (2). The point of the contrast between (1) and (2) is not that they cannot be read as having the same logical form. It is, rather, that whatever logical form, or forms, (1) may have is a matter of its semantics, not its syntax, and similarly for (2). The syntactic form of (1) and (2) is the same, and constant, throughout.

color of the sky, and the empirical fact that the sky is blue, the general terms “blue” and “the color of the sky” are co-designative.<sup>22</sup> (No surprises here.) But whereas the former is surely rigid, the latter designates red with respect to some worlds, making (P2) contingent. (Again, no surprise.) If the copula in (P2) is indeed an “is” of identity to be placed between general terms, then Kripke’s claim is vindicated that identity statements in which rigid general terms occur are, unlike (P2) but like identity statements involving proper names, necessary if true at all. Examples are close at hand: “Furze is gorse”; “Gold is Au”; “Water is H<sub>2</sub>O”. As already noted, even some descriptive general terms, like “adult male human who is not married”, are rigid designators. Still, non-rigid general terms are everywhere. These include such definite descriptions as “the species that serves as mascot for Princeton University”, “the liquid compound that covers most of

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<sup>22</sup> Though the general-term description “the color of the sky” designates blue, the corresponding predicate “is the color of the sky” semantically expresses the property of having the same color as the sky, as opposed to the more specific property of being blue (in color). The two properties share the same metaphysical extension – *to wit*, the class of all blue things – but they differ in metaphysical intension. It is important to notice also that whereas “the color of the sky” is a non-rigid general term, the gerund phrase “being the color of the sky” evidently rigidly designates a particular property – that of having the same color as the sky.

In “Bob and Carol and Ted and Alice” David Kaplan says, “almost all single words other than particles seem to me to be rigid designators” (p. 518n31). He once suggested to me (in conversation) that whereas the common noun “tiger” rigidly designates the species, the corresponding predicate “is a tiger” rigidly designates the property of being a tiger. Cf. his “Afterthoughts” to “Demonstratives,” in *Themes from Kaplan*, at pp. 580–581n30. On this view, whereas “the color of the sky” may be a non-rigid general term, its corresponding predicate “is the color of the sky” is rigid – all the more reason to distinguish sharply between a general term and its corresponding predicate. Linsky holds, by contrast, that “is the color of the sky” (non-rigidly) designates the property of being blue, rather than (rigidly) designating the property of having the same color as the sky (*op. cit.*, p. 270). I prefer to regard the predicate “is the color of the sky” as designating its extension (non-rigidly, of course) while expressing the property of having the same color as the sky, as the predicate’s semantic content. On this view the copula/operators formalized above may be taken as designating (with respect to a possible world and time) the function that assigns to any universal its metaphysical extension (in that world at that time) – making each copula/operator roughly analogous to the functor “the metaphysical extension of”.



the Earth”, “the most valuable of elemental metals”, “the color of the sky” and so on.<sup>23</sup>

It was once maintained by many that a general term like “blue” is synonymous with a description like “the color of the sky”, that “water” is synonymous with a description, such as perhaps “the colorless, odorless, potable, thirst-quenching liquid that fills oceans, lakes, and streams”, and that “pain” is synonymous with a description of the form “the physiological state that occupies such-and-such causal/functional role.” Some consequences of these views are that “The sky is blue” and “The oceans are filled with water” express necessary, *a priori* truths, whereas “Water is the chemical compound of two parts hydrogen, one part oxygen” and “Pain is the stimulation of C-fibers” expresses contingent identities. Today we know better – many of us anyway – thanks in large measure to *N&N*’s lasting insight that “blue” and “water” and “pain” are, and the allegedly synonymous general-term descriptions are not, rigid designators in the original sense of that term.<sup>24</sup> The relevant notion of general-term rigidity results directly from recognizing expressions like “blue”, “water”, “the color of the sky”, and “the liquid that sustains terrestrial life” as general terms designating appropriate universals

<sup>23</sup> Some definite descriptions are rigid, e.g., “the even prime integer”. In *N&N*, Kripke calls such descriptions *rigid de facto*, in contrast to proper names, which are termed *rigid de jure* (p. 21n). There is a question whether the rigidity of “bachelor” is *de jure* or *de facto*. (Cf. footnote 8 above.) The word “tiger” is presumably *rigid de jure*, something like a logically proper name of the species. By contrast, the general-term description “the gendered marital-status category *K* such that necessarily, someone is of *K* iff: he is an adult & he is male & he is human & he is unmarried” is *rigid de facto*. Perhaps an English common noun phrase (*sans* article/determiner) is typically synonymous with a general-term description of the particular form: *the Φ-kind/category K such that necessarily, something is of K iff it is such-and-such & it is thus-and-so & . . .* This would explain exactly how common noun phrases – and hence also single words that are definably synonymous with such phrases (if such there be) – are descriptive, while simultaneously explaining why they are nevertheless uniformly rigid. A modification of this form would be required for noun phrases employing adjectives like “suspected”, “alleged”, etc. (Cf. footnote 14 above.)

The word “bachelor” seems to me, on the other hand, rather like a logically proper name, rather than a description, of the gendered marital-status category, *Unmarried Man*. If that is how it does function, then its rigidity is *de jure* and, contrary to the common view, it is not strictly synonymous with the corresponding description, even though it is closely tied to the description – as the name “Hesperus” is closely tied to some description of the form “the first heavenly body visible at dusk from location *l* at time *t*.”

<sup>24</sup> Cf. David Lewis, “Mad Pain and Martian Pain,” in his *Philosophical Papers I* (Oxford University Press, 1983), pp. 122–132; and Soames, pp. 364–365n12.

(colors, substances, etc.), and then applying Kripke's definition of rigidity without modification – with the result that some general terms are rigid, some not. This notion is analogous to singular-term rigidity in every way that matters.<sup>25</sup>

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<sup>25</sup> Responding to my comments during the discussion of Soames's presentation at the 1996 *Universidad Nacional Autónoma de México* conference (see footnotes 3, 11), Kripke said that this proposed interpretation of *N&N* on general-term rigidity is basically correct. Soames reports that in November 1997, when he presented what is essentially the same interpretation proposed in the book with Kripke in attendance, Kripke this time expressed sympathy with Soames's assessment that there is no notion of rigidity for general terms relevantly analogous to singular-term rigidity (p. 366n22). I am puzzled by the apparent inconsistency between Kripke's response in Mexico City and his reported response only one year later. My confidence is unshaken, however, that the counter-proposal correctly indicates an extremely close analogy between singular and general terms, and with it a general notion of rigidity applicable to some (but not all) terms of either sort.