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The question of how Kripke's notion of rigidity is to be extended from singular to general terms is a significant one and has received a number of different responses. In this paper, I will argue for two separate responses to this question – one an interpretation of rigidity as applied to general terms, the other an interpretation of rigidity as applied to predicates. I will argue that in both cases the identity across possible worlds defined as part of the notion of rigidity resides in identity of the universal (or abstract kind) across possible worlds. This claim has a number of adherents in the case of general term rigidity, but is novel in the case of predicate rigidity.

The paper begins with a discussion and overview of the recent debate about general term rigidity in Section I. In Section II, I present my proposed interpretations and go on to defend these interpretations in Section III.

I. The Lie of the Land

In this section, I will provide an exposition of the problem of extending rigidity from singular to general terms as it is commonly construed. I will then present in brief a number of the current positions on the problem, along with a discussion of their problems and virtues, and highlight the emergent distinction between general terms and predicates. I begin with the distinction between singular and general terms:

There are two useful ways to distinguish singular from general terms. The first of these is by the number of potential referents each has – in any given possible world a singular term has only one potential referent, while a general term has one or more. By '*potential* referent' I mean the referent of a term in a given possible world *if the term refers at all* in that world. For example, in the actual world the proper noun 'Charles Dickens' refers and has only one referent – viz. the man Charles Dickens. This is the case in each possible world in which Charles Dickens exists – the term 'Charles Dickens' has only one referent. In those possible worlds in which Charles Dickens does not exist, however, the term has no referent. So, in *any* given possible world 'Charles Dickens' has only one *potential* referent. This can be put more systematically as follows: A singular term is a linguistic expression such that if it refers at all in any possible world *w*, then it has only one referent in *w*.

In contrast, a general term has one or more potential referents in any given possible world. For example, in the actual world the noun 'Laughing Dove' has a great many referents – viz. each

of the individual Laughing Doves existing at present all over the world, including the one I now see outside my window. As in the case of singular terms this criterion does not imply that the term refers in every possible world – there are some possible worlds in which the Laughing Dove never evolved and thus in which the term does not refer. So, *if* a general term refers in a given possible world, then it has one or more referents in that possible world. Nor does it imply that a general term has more than one referent in every possible world in which it refers. A general term might have only a single referent in some possible world/s. However, in order to maintain the distinction between singular and general terms on this construal, a general term must have more than one referent in *some* possible world. The point can be put more systematically as follows: A general term is a linguistic expression such that if it refers at all in any possible world, then it has more than one referent in some possible world.

A second way to distinguish singular from general terms is by their relation to their respective referents. First we require some terminology: By 'particular' I mean a concrete thing (this includes entities, states of affairs, etc. and excludes abstract entities) in a given possible world that is identifiable as numerically distinct from all other things in that world. Thus when I refer to my only black cat or to the dripping of the tap in the kitchen, I am referring to a particular (entity or event respectively). Similarly, when I refer to each of the leaves of the plant on my desk, I am referring to a number of particulars. The referent of a singular term is a particular. The referents of a general term are always particulars *of a certain kind/type*. And it is in virtue of being of this kind that all and only the referents of a given general term are indeed referents of the term. For example, each of the many currently existing Laughing Doves is a referent of the general term 'Laughing Dove' in the actual world in virtue of its being an instance of the type/kind *Laughing Dove*. In the case of singular terms, an analogous relation is sometimes lacking – the particular (man) Charles Dickens is the referent of the singular term 'Charles Dickens' in the actual world, but not in virtue of being an instance of the type/kind *Charles Dickens.* So in the case of a general term, the relation between the particular (the referent) and the term is always mediated by the abstract kind and is thus a three-way relation: term – kind – each of the particulars instantiating

the kind[1]. In the case of a singular term, it is sometimes the case that no such mediation exists – the relation is simply one between the particular (the referent) and the term.[2]

Rigidity is introduced in *Naming and Necessity*[3] as a feature of certain singular terms – viz. proper names. Kripke states, "One of the intuitive theses I… maintain… is that [proper] names are rigid designators" (1980, p. 48, italics omitted) and "something [is] a *rigid designator* if in every possible world it designates the same object… Of course we don't require that the objects exist in all possible worlds" (1980, p. 48). This rigidity in the case of proper names is typically understood as follows[4]:

(A) A proper name fulfils the following criteria for rigid designation:

(a) It designates an object *o* in some possible world, and

(b) It designates the same object *o* in all possible worlds in which *o* exists, and

(c) It designates nothing else in a world in which *o* does not exist, and

(d) It designates nothing else in a world in which *o* does exist,

where designation is taken to cover at least the reference relation holding between a proper name and the particular that is its referent[5], and 'proper name' is understood as a grammatical category whose terms name particular people, places, things, etc., synonymous with 'proper noun'[6].

It is worth noting the relation of the above formalised definition to Kripke's explicit definition of rigid designation: (a) is a criterion that is implicit in (b), where (b) coincides with Kripke's explicit definition. (c) is an addition to Kripke's definition, but one which accords with

[1] I have here ignored a possible additional element in the semantic relation of a term to a particular – viz. the description associated with a term by which reference is fixed. However, we find both singular and general terms that have a relation to this additional element and thus such a description plays no role in distinguishing singular from general terms.

[2] While I suspect that the above two criteria for distinguishing singular from general terms are each necessary, I do not think that I have formulated them precisely enough to be jointly sufficient. The literature on the distinction is lacking in agreement and similarly imprecise (see, for example, Salmon, 2005, pp. 126 - 131). I therefore do not intend the above two criteria as a set of necessary and sufficient conditions for the distinction, but do think that they are adequate for the purposes at hand.

[3] Kripke, 1980.

[4] See, for example, Salmon, 2005, p. 119.

[5] This is in keeping with Kripke's claims (1980, p. 24).

[6] This is in keeping with Kripke's claims (1980, p. 24)

his claims about, and cited examples of, the rigidity of proper names[7]. (d) is implicit in proper name designation – for proper names are singular terms, and a singular term has only one potential referent in any given possible world.

Given the above, the 'object' mentioned in the above criteria is naturally understood as the *particular* that is designated by the proper name. For example, the proper name 'Charles Dickens' (a) designates the particular (man) Charles Dickens in some possible world – viz. the actual world, (b) designates Charles Dickens in all possible worlds in which Charles Dickens exists, (c) designates no other particular(s) in a world in which Charles Dickens does not exist, and (d) designates no other particular(s) in a world in which Charles Dickens does exist. Indeed, taking the rigidly designated object of a proper name to be the relevant particular accords with Kripke's claims – all proper names emerge rigid on this construal – and cited examples – 'Aristotle' rigidly designates *the particular man* Aristotle (1980, p. 62) and 'Hesperus' rigidly designates a *particular planet* (1980, p. 58). This claim may seem trivial, for it is unclear what else the object rigidly designated by a proper name might be. However, it becomes significant when we attempt to extend rigidity to general terms:

Kripke's further claim is that certain general terms – viz. terms for natural kinds – are rigid in a way analogous to proper names. He states, "terms for natural kinds are much closer to proper names than is ordinarily supposed" (1980, p. 127), giving such examples as 'cat', 'chunk of gold', 'gold', 'heat', 'hot', and 'red' (1980, p. 134), among others. Later he explicitly claims that 'heat' and 'gold' are rigid designators (1980, p. 136). Kripke, however, gives no new definition of rigidity that is to apply in the case of natural kind terms, and so we are left to apply the original definition analogously.

Attempting to do so immediately leaves us with an obstacle: Recall that in the case of proper names we took the object rigidly designated by a proper name to be the *particular* that is the referent of the proper name in all possible worlds in which the name refers. Now, if we take the object rigidly designated by a natural kind term to be the particulars that are the referents of the term in all possible worlds in which the term refers, we find that there is no such object. The particulars that are the referents of a given natural kind term in one possible world are not the same particulars in all possible worlds in which the term refers. The particular Laughing Doves

[7] See 1980, p. 62.

that exist in the actual world are different particulars from those existing in a world in which the Laughing Dove evolved at an entirely different time and in an entirely different region. The case is the same for 'cat', 'chunk of gold', 'hot', etc. Thus, if we apply the definition for proper name rigidity to natural kind terms in this way, criterion (b) – the criterion which coincided exactly with Kripke's explicit definition – is not fulfilled by any natural kind term and thus none of Kripke's cited general terms emerge rigid.

So a question of interpretation arises: How is Kripke's definition of rigid designation to be extended to general terms? And what is the 'object' that is rigidly designated by such terms?

An initial response to this problem is to distinguish between the particulars that are the referents of a term in a given possible world and the set formed by those particulars (or, the extension of a term and the members in the extension of that term). In the case of both singular and general term rigidity propounded above, we took the rigidly designated object to be the set formed by the particular(s), rather than the particulars themselves[8]. Now in the case of the rigidity of proper names the choice of one over the other has no noticeable effect. A proper name has only one potential referent in any given possible world. So if the particular referred to by a proper name is constant across all possible worlds in which the name refers, so is the set formed by that particular in each possible world (and vice versa). In contrast, a given particular referred to by a general term can remain constant across all possible worlds, while the set of which it forms part in each world does not. Take, for example, the Laughing Dove that I now see outside my window (let us call this dove 'Duncan'). The general term 'Laughing Dove' can – and indeed does – refer to Duncan across all possible worlds in which Duncan exists. However, the set of particular Laughing Doves of which Duncan forms part in this world differs to the set of particular Laughing Doves in another world in which Duncan has a different number of siblings. The case is the same if we consider each separate Laughing Dove to which the term 'Laughing Dove' refers. So, we could take the object rigidly designated by a natural kind term to be the particular, rather than the set formed by the particulars. (In such a case a given general term potentially rigidly designates

[8] This distinction is often glossed over in the literature (see, for example, LaPorte, 2000, p. 294; Devitt, 2005, p. 140; Cordry, 2004, p. 244) and indeed does seem contrary to our initial understanding of the rigidity of proper names (I stated earlier that the object rigidly designated by the proper name 'Charles Dickens' is the *particular man* Charles Dickens, and not the set formed by the single member Charles Dickens). However, in order for the definition to be applied analogously to general terms as indicated above and as is conventionally done, we must take the rigidly designated object of a proper name to be the extension of the name, rather than the member in that extension.

more than one object, as a general term has more than one potential referent in any given possible world).

This interpretation is in fact Scott Soames's favoured reply to the problem. He proposes the following (2002, p. 251):

> **(B)** A predicate **p** is rigid iff it fulfils the following criteria for predicate rigidity:
>
> (a) For all possible worlds *w* and objects *o*, if **p** applies to an object *o* in some possible world, then
>
> (b) **p** applies to the same object *o* in all possible worlds in which *o* exists,

where, for now, I take 'predicate' to be synonymous with 'general term', and 'application' to mean the referential relation holding between a general term and each of the particulars that instantiate the mediating abstract kind (as discussed earlier).

The first point of disanalogy between Soames's interpretation of general term rigidity and our original construal of proper name rigidity is the substitution of application for designation. Initially we took 'designation' to cover at least the referential relation holding between a proper name and the particular to which it refers. Many authors, however, extend the term to cover various other referential relations – for example, the relation holding between any singular term and its relevant particular (Devitt, 2005, p. 8; Salmon, 1981, p. 53), between a definite description and its particular (Kripke, 1980, p. 24), between a general term and a universal (Salmon, 1981, p. 53; Soames, 2006, p. 711), and between a general term and the set formed by the particulars that are its referents (LaPorte, 2000, p. 294). In all cases, however, 'designation' is used to refer to a 1:1 referential relation. In contrast, application – being a relation holding between a general term and its particulars – is necessarily a 1:many relation. So if we consider Kripke's explicit labelling of certain general terms as rigid *designators* (1980, p. 136) to be a precise claim, an interpretation of general term rigidity which construes *application* to be the referential relation in which rigidity is to be found does not accord with Kripke's claims[9].

Secondly, on the above interpretation, general term rigidity fails to fulfil conditions (c) and (d) that held in the case of proper names. A general term – having more than one potential referent

[9] Salmon seems to raise the same objection (2005, p. 119n4).

in any given possible world – does apply to objects other than *o* both in worlds in which *o* does not exist and in worlds in which *o* does exist[10].

A third objection to Soames's interpretation is apparent when we consider terms like 'hot' and 'red'. On my dining room table can be found a red candle. So the general term 'red' applies to an object *o* in some possible world, thus fulfilling the antecedent of the conditional in **(B)**. There is a possible world, however, in which I paint the candle on my table blue and in this possible world the general term 'red' does not apply to *o*, even though *o* exists. Thus, the consequent of the conditional in **(B)** is not fulfilled by the term 'red' and so on Soames's interpretation above 'red' emerges nonrigid. Similarly, 'hot' – being an accidental property of objects – also emerges nonrigid. This is problematic insofar as it conflicts with Kripke's cited examples of rigid general terms (Kripke, 1980, p. 134)[11].

An alternative to the above interpretation is to locate rigidity in the referential relation between a general term and the abstract kind which mediates the term's reference to the relevant particulars. Such an interpretation would look something like the following:

(C) A general term is rigid iff it fulfils the following criteria for general term rigidity:

(a) It designates a universal *u* in some possible world, and

(b) It designates the same universal *u* in all possible worlds in which *u* has instances, and

(c) It designates nothing else in a world in which *u* does not have instances, and

(d) It designates nothing else in a world in which *u* does have instances,

where I take 'universal' to be synonymous with 'abstract kind/type' as understood in the distinction between singular and general terms at the beginning of this section, and 'designation' to cover (in addition to the relation between a proper name and its relevant particular) the referential relation holding between a general term **g** and a universal *u* when **g** applies to all and only instances of *u* in a given possible world. For example, in the actual world, the general term 'red' applies to all and only instances of *the property of being red* (that is, to all and only red

[10] Again Salmon raises a similar objection (2005, p. 119).
[11] See Salmon, 2005, p. 119.

objects). Thus, 'red' designates the universal *the property of being an instance of red* in the actual world. Further, in every possible world in which there are red objects, 'red' applies to all and only these objects and thus designates the universal *the property of being an instance of red* and no other universal(s) in these worlds. Finally, in every possible world in which there are no red objects, the general term 'red' does not apply to instances of any other universal and thus the term designates no other universal(s) in these worlds. Thus, the general term 'red' satisfies all of criteria (a) – (d) and so rigidly designates the universal *the property of being red.* Interpretation **(C)** therefore has an advantage over interpretation **(B)** as Kripke's cited terms – 'red', and presumably 'hot' – now emerge rigid as claimed.

It seems, however, that our new interpretation **(C)** is subject to the opposite objection: Whereas the definition proposed in **(B)** was too narrow in virtue of excluding cited terms like 'red' and 'hot', **(C)** is too broad as it allows all general terms to emerge rigid. For any given general term **g**, it seems that **g** will always apply to all and only instances of *the property of being* ***g*** or *the property of being a* ***g***. This is problematic insofar as it constitutes a significant point of disanalogy with the rigidity of proper names. According to Kripke, proper names – being rigid – contrast with other singular terms that are not rigid, for example, certain definite descriptions like 'the president of the U.S. in 1970' (1980, pp. 48 - 49). No such contrast exists, however, in the case of **(C)**[12].

In response to the objections facing interpretations like **(B)** and **(C)**, Salmon appeals to a distinction between general terms and predicates (2005, p. 121). Accounts like **(B)** and **(C)**, he claims, are accounts of predicate rigidity and, while the above objections successfully show the implausibility of such accounts, they do not apply to accounts of general term rigidity. I take Salmon's distinction between general terms and predicates to play a role something like the following:

A general term combines with a predicate-forming operator like 'is' or 'is a'[13] to form a predicate. So, for example, 'blue' is a general term that combines with a predicate-forming operator to form the predicate 'is blue', the general term 'Laughing Dove' forms the predicate 'is

[12] A number of authors raise this objection and hold that an account of general term rigidity on which all general terms emerge trivially rigid is unacceptable (see, for example, Soames, 2002, pp. 250 – 251; LaPorte, 2000, p. 296; Devitt, 2005, p. 140).

[13] The mentioned predicate-forming operators need not be in the present, singular tense – 'are', 'was', 'was a', 'were', etc. equally function as predicate-forming operators.

a Laughing Dove', etc. While the two kinds of terms resemble and differ from each other in a number of ways, the difference relevant to our present discussion is in the universal that relates to each kind of term. The universal that is instantiated by the particulars referred to by the predicate 'is **g**' or 'is a **g**' is *the property of being an instance of g*; whereas the universal that is instantiated by the particulars referred to by the general term **g** need not be *the abstract kind/type g*.

As an example of this Salmon introduces the general term 'the colour of the sky' and the predicate 'is the colour of the sky' as they occur in the statement 'My true love's eyes are the colour of the sky'[14] (2003, pp. 483, 485n, 486n). Salmon claims – in line with our objection to **(C)** – that the universal instantiated by the particulars referred to by the predicate 'is the colour of the sky' in the actual world is *the property of being an instance of the colour of the sky* (where this property is understood as the uncommon relational property of being the same colour as the sky, whatever that may be). The case is the same for all other possible worlds in which the predicate refers. Thus, as noted before, were we to take the predicate 'is the colour of the sky' as rigidly designating its relevant universal *the property of being an instance of the colour of the sky*, it would – like all other predicates – emerge rigid. However, the universal that is instantiated by the particulars referred to by the general term 'the colour of the sky' in the actual world, claims Salmon, is *the colour blue* and not *the colour of the sky*. And in a possible world in which the sky is red, the universal instantiated by the general term 'the colour of the sky' would be *the colour red*. Thus, the universal instantiated by 'the colour of the sky' is different across possible worlds. So, if we take the object of a rigidly designating *general term* to be the universal instantiated by the particulars to which the general term refers in a given possible world, it is not the case that all general terms emerge rigid. We have thus managed to overcome the objection to **(C)** by introducing the distinction between general terms and predicates and then formulating a definition of general term rigidity that is analogous to the predicate rigidity defined in **(C)**, but which is not subject to the same objection.

[14] It is worth noting that 'the colour of the sky' does constitute a general term on our account, as it has more than one particular as its referent in some possible world – for example, in the actual world my favourite pair of jeans are the colour of the sky, Salmon's true love's eyes are the colour of the sky, the ocean at midday is the colour of the sky, etc. – and each of these particulars are its referents in virtue of instantiating the same abstract kind/type.

Salmon's proposed interpretation of general term rigidity is as follows:

(D) A general term is rigid iff it fulfils the following criteria for general term rigidity:

(a) It designates a universal *u* in some possible world, and

(b) It designates the same universal *u* in all possible worlds in which *u* has instances, and

(c) It designates nothing else in a world in which *u* does not have instances, and

(d) It designates nothing else in a world in which *u* does have instances,

where 'universal' is again synonymous with 'abstract kind/type' as understood in the distinction between singular and general terms at the beginning of this section, and a general term is understood as distinct from a predicate as discussed above.

In *Reference and Essence* Salmon puts forward two different definitions of general term 'designation' (1981, pp. 53, 70), the first of which is meant to feature in the above definition of general term rigidity. Before examining them, some terminology is required: The metaphysical extension of a universal *u* in a possible world w is the set of particulars instantiating *u* in w. The semantical extension of a general term **g** in a possible world w is the set of all and only the particulars that are the referents of **g** in w. The metaphysical intension of a universal *u* is the function that assigns the metaphysical extension of *u* to *u* in any given possible world. The semantical intension of a general term **g** in a possible world w is the function that assigns the semantical extension of **g** to **g** in any given possible world. On Salmon's first – and adopted – definition, a general term **g** designates a universal *u* in possible world w iff (1) **g** refers to some particular(s) in w, (2) *u* has instances in w, and (3) the semantical intension of the former and the metaphysical intension of the latter coincide[15]. So, the general term 'Laughing Dove' designates the species *Streptopelia senegalensis* in a possible world w iff 'Laughing Dove' refers to some

[15] Salmon does not include the qualification 'in a possible world w' or criteria (1) and (2) in his first proposed definition of general term designation, but rather defines general term designation without reference to the possible world in which the designation is meant to hold (1981, p. 53). I do not think that my qualifications damage his position, however, for I doubt that Salmon meant to hold that a general term **g** designates a universal *u* in a world in which **g** refers to no particulars and *u* has no instances. Further, if we are to make sense of his proposed definition of designation in terms of rigidity, we need to be able to check whether such designation holds across possible worlds. Thus, we need to define it in relation to the possible world in which it holds. (These remarks can be applied mutatis mutandis to Salmon's second proposed definition of general term designation).

particular(s) in w, the species *Streptopelia senegalensis* has instances in w, and in every world in which 'Laughing Dove' refers or the species *Streptopelia senegalensis* has instances, the set of particulars to which the term 'Laughing Dove' refers is the same as the set of particulars instantiating the species *Streptopelia senegalensis* in that world. In contrast, Salmon's second proposed definition only requires coincidence of the semantical extension of a general term in possible world w and the metaphysical extension of a universal in possible world w for the general term to designate the universal in w. That is, a general term **g** designates a universal *u* in possible world w iff (1) **g** refers to some particular(s) in w, (2) *u* has instances in w, and (3) the set of particulars to which **g** refers in w is the same as the set of particulars instantiating *u* in w.

Now according to Salmon's chosen definition, if a general term **g** designates a universal *u* in a given possible world w, then – by definition – it does so in all other possible worlds in which **g** refers or *u* has instances. This is because such designation requires coincidence in the *intensions* of the general term and the universal, which are functions across all possible worlds in which the general term refers or the universal has instances. So, whenever we find a general term that satisfies criterion (a) of **(D)**, the term – by definition – satisfies all of (b) – (d) as well, thus emerging rigid. Thus, on Salmon's adopted definition of designation, any general term that designates a universal *u* at all in any possible world does so rigidly.

This conclusion, however, clearly conflicts with Salmon's claim that certain general terms, like 'the colour of the sky', *designate* the relevant universal *nonrigidly*. I thus take Salmon to have retreated to his second proposed definition of general term designation[16]. This construal coheres with his cited example of a nonrigid general term: In the actual world, (1) the general term 'the colour of the sky' refers to some particulars, (2) *the colour blue* has some instances, and (3) the set of particulars to which the term 'the colour of the sky' refers is the same as the set of particulars instantiating *the colour blue*. So, according to Salmon's second definition, 'the colour of the sky' designates *the colour blue* in the actual world. Analogously, 'the colour of the sky' designates *the colour red* in a possible world in which the sky is red. Thus, the general term 'the

[16] Although Salmon gives no explicit indication of having changed his definition, he notes in *Reference and Essence* (1981, p. 70) that the consequence of his first definition is its rendering all designating general terms rigid, but goes on to deny the claim that all designating general terms are rigid in 'Naming, Necessity, and Beyond' (2003, p. 482). I think that the best way of reconciling Salmon's contradictory claims is to take him to be adopting his second proposed definition. And, as we shall see, this construal also coheres with his cited example of a nonrigid designating general term, and thus does the required work in providing **(D)** as the reply to the problems faced by **(C)**.

colour of the sky' fails to satisfy conditions (b) and (c) of **(D)** and only nonrigidly designates *the colour blue* in the actual world. I therefore understand 'designation' on Salmon's interpretation (**D)** according to Salmon's second proposed definition.

Further, if we understand **(D)** as above, all of Kripke's cited general terms emerge rigid. For example, in the actual world, (1) the general term 'red' refers to some particulars, (2) *the colour red* has some instances, and (3) the set of particulars to which the term 'red' refers is the same as the set of particulars instantiating *the colour red*. So, 'red' designates *the colour red* in the actual world. The case is the same for all possible worlds in which 'red' refers to some particular(s) or *the colour red* has instances. Thus, criteria (a) – (d) of **(D)** are fulfilled by the general term 'red' and, in keeping with Kripke's claims, it emerges rigid.

We can summarise Salmon's line of thought that leads to interpretation **(D)** as follows: In the case of predicate rigidity, if we locate rigidity in the relation of the predicate to each particular to which it applies (as in **(B)**), we must sacrifice the 1:1 relation of rigid designation for the 1:many relation of rigid application. Salmon claims that there are strong reasons for taking a predicate to designate its extension (viz. the set of particulars to which it refers in a given possible world) (2005, p. 118). In response to the objection facing **(B)** we could, however, take a predicate to designate the relevant universal and thus locate rigidity in the relation of a predicate to its relevant universal (as in **(C)**). If we do this, however, all predicates emerge rigid. We must therefore take a predicate to designate its extension rather than the relevant universal. If, on the other hand, we take a general term to designate the relevant universal – and thus locate rigidity in the relation of a general term to its relevant universal – we find that, first, we do not need to sacrifice the relation of rigid designation for the relation of rigid application; secondly, rigid general terms satisfy conditions analogous to (c) and (d) of **(A)**; thirdly, all of Kripke's cited terms emerge rigid (the definition is not too narrow); and, finally, not all general terms emerge trivially rigid (the definition is not too broad). **(D)** thus avoids all objections raised against interpretations **(B)** and **(C)**.

Salmon's proposed interpretation of general term rigidity is not, however, without its problems. Some terminology is required before we examine the first of these objections: I take 'descriptive terms' to be terms whose initial and subsequent reference is determined by a mediating a priori description associated with the term. The referent of a descriptive term in a

given possible world is the object that satisfies the descriptive conditions or sufficiently many of the descriptive conditions in that world. In the case of a descriptive general term, one or more objects potentially satisfy the associated descriptive conditions in a given possible world; whereas in the case of a singular term, only one object potentially does. A descriptive term is often said to be synonymous with its associated description. In contrast, while the initial reference of a nondescriptive term might – but need not – be fixed by an a priori associated description, the subsequent reference of a nondescriptive term is not determined by such a description. A nondescriptive term is not synonymous with any associated description. Thus, a nondescriptive term can be used to refer to an object in a given possible world without knowledge of the descriptive conditions satisfied by that object. Nondescriptive terms are not characterised by a positive account of how their reference is determined[17], but rather are characterised negatively as terms whose reference is not determined via an associated description in the manner of a descriptive term above.

A number of authors note that in the case of singular terms, rigidity serves to distinguish descriptive from nondescriptive terms. And indeed in the case of proper names and definite descriptions, this seems to be the case. According to Kripke, proper names are rigid and nondescriptive. He states, for example, "we use the term 'Aristotle' in such a way that, in thinking of a counterfactual situation in which Aristotle didn't go into any of the fields and do any of the achievements we commonly attribute to him, still we would say that was a situation in which *Aristotle* did not do these things" (1980, p. 62). So, the proper name 'Aristotle' designates the particular man Aristotle across possible worlds, regardless of any descriptive conditions we might associate with the term. Definite descriptions, on the other hand, like 'the man who taught Alexander the Great', are descriptive and nonrigid. In order to determine the reference for 'the man who taught Alexander the Great' in a possible world, we need to find the man who taught Alexander the Great. And this man is a different man in different possible worlds. If this is the correct construal of the relation of rigidity to nondescriptive singular terms, we might expect an adequate interpretation of general term rigidity to mirror this relation. Salmon's account, however, does not. On interpretation **(D)** both descriptive and nondescriptive general terms emerge rigid,

[17] Although reference via some sort of causal contact with the object and a subsequent causal chain of reference is often cited as an alternative to reference via description. See, for example, Kripke, 1980, pp. 91 – 97; Devitt, 1981, Chapter 2.

and rigidity thus cannot serve to distinguish between the two. For example, both the general term 'Laughing Dove' (a purported nondescriptive term) and the general term 'bachelor' (a descriptive term) emerge rigid.

Secondly, as discussed, Salmon claims that the universal that is instantiated by particulars referred to by the predicate 'is the colour of the sky' in the actual world is *the property of being an instance of the colour of the sky*; whereas the universal instantiated by particulars referred to by the general term 'the colour of the sky' in the actual world is *the colour blue*. This claim is in fact crucial in his rejection of **(C)** in favour of **(D)**. I find it implausible, however, that the universal instantiated in the case of a given general term should not correspond to the universal instantiated when the general term is combined with a predicate-forming operator to form a predicate. Indeed, Salmon claims that a predicate-forming operator like 'is' or 'is a' is "roughly analogous to the functor 'the metaphysical extension of'" (2003, p. 486n), a functor which – it would seem – can play no role in changing the universal designated by the general term combined into the predicate. So, when a general term **g** that designates a universal *u* is combined with the predicate-forming operator 'is' to form the predicate 'is **g**', we would expect the universal relevant to the predicate 'is **g**' (that is, the universal instantiated by particulars to which the predicate applies) to be *the property of being in the metaphysical extension of u* (or, *the property of being an instance of u*) and not some other universal *v*. Taking the case of 'the colour of the sky': Given that – according to Salmon – the universal designated by the general term 'the colour of the sky' is *the colour blue*, we would expect that once the general term is combined into a predicate with a predicate-forming operator that is "roughly analogous to the functor 'the metaphysical extension of'" (2003, p. 486n), the universal relevant to the resulting predicate would be *the property of being an instance of the colour blue*. However, Salmon claims instead that the relevant universal is *the property of being an instance of the colour of the sky.*

Having taken stock of some of the recent moves in the debate over general term rigidity, I turn now to an exposition and defence of my own account as a response to the above discussion.

II. The Accounts

In this section, I will present my favoured interpretation of general term rigidity. I will precede this by a discussion of the framework within which Kripke situates his notion of rigidity. Let us begin with the definition of rigidity provided by Kripke:

"[S]omething [is a] rigid designator if in every possible world it designates the same object [and] a nonrigid designator if that is not the case… [W]e don't require that the objects exist in all possible worlds" (1980, p. 48). Now there are two significant elements to Kripke's notion of rigidity cited here. First, there is the relation of identity between objects across possible worlds – more specifically, the relation holding between all objects (in all possible worlds) that are numerically identical to a given object *o* in a given possible world. Secondly, there is the referential relation holding between a linguistic term and an object in a given possible world. These two relations are logically distinct – the relation holding between numerically identical objects in different possible worlds holds quite regardless of whether the object is referred to in any of the possible worlds, and a term can refer to an object in a given possible world without any implication of the object's identity in another possible world[18]. Rigidity, as explicitly defined by Kripke, incorporates both of these relations: Rigidity is a feature of a linguistic term[19] when an object is identified across all possible worlds in which it exists and the term successfully refers to the object in each of these worlds. It is important to note, however, that this definition of rigidity does not incorporate any claim, first, as to how the object is to be identified[20] across possible worlds; and, secondly, as to how the term determines that identical object as its referent across possible worlds.

Given the above, Kripke's claim that proper names are rigid designators (1980, p. 48) is neither novel nor surprising. Kripke makes this claim against the backdrop of widely-accepted descriptivist theories of proper names (that is, theories holding that proper names are descriptive in the sense discussed in Section I), and it is consistent with these theories that proper names are rigid designators. As noted above, the primary claims of such theories concern how the reference

[18] Whether there are any such terms in any natural language is a separate question.
[19] I will also use the term 'rigid' to refer to the *referential relation* between a rigid term and its referential object.
[20] It is important to note that the relation of identity between objects across possible worlds is distinct from the identification of such a relation. The first is a metaphysical relation (which I will call 'identity'), whereas the second is an epistemological relation between a cognitive subject and the metaphysical relation of identity (which I will call 'identification').

of a term is determined, whereas the definition of rigidity concerns what the referent of a term is in different possible worlds. So the claims of descriptivism seem prima facie compatible with the above understanding of rigidity. But when Kripke states, "One of the intuitive theses I… maintain… is that names are rigid designators" (1980, p. 48) and "we can refer (rigidly) to Nixon" (1980, p. 49), he intends these claims to be substantive – he is not merely reiterating a point compatible with descriptivist theories of proper names. In order for this claim to be substantive, we must situate it within Kripke's broader argument:

Kripke is responding to a number of different claims. One of these is what I will call the 'telescopic' thesis of identification (Kripke, 1980, pp. 42 - 44). The telescopic thesis is a claim about how an object is to be identified across possible worlds. On this account, a possible world is given only in terms of qualitative properties. So in order to identify an object as the same object across possible worlds, we need to identify the object satisfying certain qualitative conditions. For example, in order to identify the particular man Charles Dickens across possible worlds w_1 and w_2, we need to find the object in w_1 and w_2 that satisfies the set of conditions; (a) the man who wrote *Bleak House*, (b) the man who was born on 7 February 1812 at Landport, (c) the man who dies from a stroke on 9 June 1870[21]. Another way of formulating this thesis is as the claim that in order to identify the numerical identity of two objects in different possible worlds, we need to identify the relevant qualitative identity. As should be clear, this thesis is an epistemological one – that is, it is a claim about how one is to successfully identify an object across possible worlds[22].

The second thesis is one we have already encountered – viz. descriptivism. As noted, the primary descriptivist claim concerns how the reference of a given term is established in a possible world – that is, a term determines its reference to an object via the object's satisfying descriptive (or qualitative) conditions associated with the term. So, in order to refer to Charles Dickens in

[21] Of course, in order to establish the identity of Charles Dickens across *all* possible worlds in which he exists, we would need a set of necessary and sufficient qualitative conditions for his identity. Presumably, in any given possible world, the fulfilment of a *subset* or *sufficiently many* of the full set of necessary and sufficient conditions would yield the desired unique particular. Clearly conditions (a) – (c) fulfil neither of these requirements; however, I have given (a) – (c) merely for the sake of the example.

[22] It is distinct from the metaphysical thesis that an object's identity across possible worlds is *constituted by* its satisfaction of certain qualitative conditions (that is, the thesis that the satisfaction of certain qualitative conditions is required for the *identity of an object* (as understood in footnote 20 above) across possible worlds, rather than the *identification* (as understood in footnote 20 above) thereof). I take the epistemological thesis to be the one featuring in the telescopic theory as Kripke later goes on to reject the telescopic theory and it is clear that he means to reject the epistemological thesis, but not clear that he means to reject the metaphysical one (Kripke, 1980, pp. 43 - 44 and 46 - 47).

possible worlds w_1 and w_2 (the object we have identified across possible worlds w_1 and w_2 by the satisfaction of conditions (a) – (c) above), we need to associate the proper name 'Charles Dickens' with the mediating a priori description and to determine the reference of the name as the object satisfying the associated description.

Given the above two theses, we have a (pre-Kripkean) account of the rigidity of proper names: Remember we found rigidity – under Kripke's explicit definition – to be a feature of a linguistic term when an object is identified across all possible worlds in which it exists and the term successfully refers to the object in each of these worlds. In order to identify an object *o* across all possible worlds in which it exists, we need – according to the telescopic thesis – a set of *necessary and sufficient* qualitative conditions for *o*'s identity. Given such conditions, we can associate them with the relevant proper name 'o' and determine the referent of 'o' to be the object satisfying (all or sufficiently many of) the associated qualitative conditions in all possible worlds in which the conditions are satisfied. Under these conditions, the proper name 'o' rigidly designates the object *o*, and it does so assuming the telescopic thesis of identification and the descriptivist thesis of reference.

Kripke, however, rejects both the telescopic thesis and the descriptivist thesis in the case of proper names. In response to the former, he states, "[A]dequate necessary and sufficient conditions for identity are very rare in any case… [But] what seems more objectionable is that this depends on the wrong way of looking at what a possible world is" (1980, p. 43) … "[P]ossible worlds need not be given purely qualitatively" (1980, pp. 49 - 50) … "A possible world is *given by the descriptive conditions we associate with it*" (1980, p. 44). And of descriptivism: "It is in general not the case that the reference of a name is determined by some unique properties satisfied by the referent and known or believed to be true of that referent by the speaker" (1980, p. 106). I do not take Kripke to be denying that *if we knew* the necessary and sufficient qualitative conditions for the identification of an object, then we could identify an object across all possible worlds in which the object exists and thus refer to that object in each of those possible worlds by associating the conditions with the term. Rather, I take him to be claiming that

this is not the only method, nor a viable method, nor – as a matter of fact – the employed method, of identifying and referring to an object across possible worlds[23].

Instead of the above account of the rigidity of proper names, Kripke offers two rival theses. The first of these I will term the 'stipulative' thesis of identification. On this account, in order to identify an object across possible worlds, we can *stipulate* its identity. Or, in other words, numerical identity can be identified across possible worlds without first identifying qualitative identity. For example, in order to identify Charles Dickens across possible worlds w_1 and w_2, we stipulate the conditions holding in each world – including the identity of Charles Dickens across these worlds. If we take w_1 as the actual world and w_2 as the world in which Charles Dickens does not write *Bleak House*, then we have identified Charles Dickens across w_1 and w_2 and we know that in w_2 it is Charles Dickens that does not write *Bleak House*. Again, this thesis is an epistemological one. It is not a thesis about *what makes objects identical* in different possible worlds, but rather is a thesis about *how we are to identify objects as identical* in different possible worlds successfully[24].

Kripke's second thesis is a linguistic one – viz. nondescriptivism. Broadly, this is the thesis that certain terms are nondescriptive in the sense defined in Section I. Recall that nondescriptive terms were primarily characterised negatively – that is, as terms whose reference is not determined descriptively. So, on this account, a term does not determine its reference to an object via the object satisfying descriptive / qualitative conditions associated with the term. So, the proper name 'Charles Dickens' does not refer to Charles Dickens in w_1 and w_2 in virtue Charles Dickens satisfying conditions associated with the term in these worlds. Rather, it refers to Charles Dickens in some other way.

Combining the above epistemological and linguistic theses, we can provide an account of (Kripkean) rigidity as follows: In order to identify an object *o* across all possible worlds in which it exists, we can stipulate its identity (according to the stipulative thesis). Having thus identified *o*

[23] The telescopic thesis of identification and the descriptivist thesis of reference are indeed logically distinct theses, and so it seems possible that one could be invoked in the above without the other. However, it is clear that they form an attractive theory when combined, and, as Kripke rejects both, I will not examine each of their relations to rigidity separately.

[24] It is worth noting the following distinction: Assuming the telescopic thesis of identification and given a possible world in terms of qualitative conditions, we can always ask the identity of a particular *x* in this possible world. In contrast, assuming the stipulative theory of identification and given the identity of a particular *x* a possible world, we can always ask whether this world is indeed possible. This distinction is to highlight the point that the stipulative thesis of identification does not allow the stipulation of merely any world as possible.

across all possible worlds in which it exists, the relevant proper name 'o' can be used to refer to *o* in each of those worlds without *o* satisfying any qualitative conditions associated with 'o'[25]. Thus, 'o' rigidly designates the object *o*.

So Kripke's thesis is not merely that proper names are rigid designators, in the bare sense given in his explicit definition of rigidity; but rather that proper names can be (and are) *Kripkean* rigid designators (where the stipulative thesis of identification and the nondescriptivist thesis of reference are assumed as part of the definition of rigidity, as described above). And this claim is substantive against the backdrop of widely-accepted descriptivist theories of proper names. Thus, an ambiguity has arisen: Rigidity is explicitly defined in a way that does not incorporate any claims about how the reference of a term is determined or how an object is identified across possible worlds. However, Kripke often uses the term in the way we have just defined, which does incorporate such claims. For example, I take this second sense of rigidity to be the one employed when he states, "Frege and Russell certainly seem to have the full blown theory according to which a name is not a rigid designator" (1980, p. 58) and when he states, "[P]roper names are rigid designators" (1980, p. 49).

Kripke's argument, however, does not only apply in the case of proper names. His above line of reasoning is also meant to apply in the case of natural kind terms. As Kripke notes, the descriptive thesis of reference and the telescopic theory of identification are standard positions in the case of general terms[26] as well: "The modern logical tradition, as represented by Frege and Russell, seems to hold that Mill was… right about general names [- viz. that all general names are connotative, where a predicate like 'human being' is defined as the conjunction of certain properties which give necessary and sufficient conditions for humanity]" (1980, p. 127). Let us apply the above distinctions to the case of the cited rigid general term 'gold' (1980, p. 127):

According to the telescopic thesis, in order to identify gold across possible worlds w_1 and w_2, we need to identify the thing that satisfies sufficiently many of the necessary and sufficient

[25] Kripke does of course provide a possible positive account – viz. the causal theory of reference – as to how the term determines its reference (1980, pp. 91 - 97). However, the significant thesis for our discussion of general terms is the negative nondescriptivist thesis; therefore, I will not broach the intricacies of the causal theory of reference in this paper.

[26] I revert here to the sense of 'general term' as used in the introduction, prior to its distinction from predicates by Salmon.

qualitative criteria; (a) metallic, (b) yellow, (c) ductile, (d) malleable[27]. According to the descriptivist thesis, in order for the general term 'gold' to refer to gold in worlds w_1 and w_2, the term must be associated with conditions (a) to (d) as its mediating a priori description and the reference of the term determined to be the object that satisfies sufficiently many of conditions (a) – (d) in each possible world, viz. the thing identified as gold across w_1 and w_2. Given this, the general term 'gold' is rigid in a pre-Kripkean sense if the term 'gold' is associated with the set of necessary and sufficient conditions for the identity of gold (a) – (d) and its reference is determined in each possible world to be the thing satisfying sufficiently many of conditions (a) – (d) in that world, if there is such.

In contrast to this, the stipulative thesis of identification states that in order to identify gold across possible worlds w_1 and w_2, we can stipulate its identity without taking into account the qualitative conditions fulfilled by gold in each world. (So we can identify gold in a possible world in which it is blue (Kripke, 1980, p. 118) by stipulating that the blue substance is gold, rather than by checking it against a set of qualitative criteria). And in order to use the term 'gold' to refer to gold across possible worlds w_1 and w_2 – given that we have stipulated the identity of gold across these possible worlds – the term need not have any associated descriptive conditions in virtue of which it does so. So the general term 'gold' is rigid in a Kripkean sense if we identify gold across all possible worlds in which it exists – by stipulation – and then use the term 'gold' to refer to it in each of these possible worlds.

It should be clear, however, that the above distinctions are ambiguous: In each case of my use of the word 'gold' it is unclear whether I mean 'a particular instance of the universal *gold'* (for example, the gold ring on my finger) or whether I mean '*gold* as a universal'. Similarly, my use of 'thing' could be taken to mean 'particular' or 'universal'. This ambiguity mirrors the ambiguity found in Kripke's discussion of the terms. For instance, Kripke states, "'Pain' is a rigid designator of the type, or phenomenon, it designates" (1980, p. 148), and then, "[I]f *something is a pain* it is essentially so" (1980, p. 148, my italics).

In the case of the rigidity of 'gold' in the pre-Kripkean sense, as stated, we identify gold by its satisfying various qualitative criteria. In this case, it must be the particular *instances* of the kind gold that are identified by their satisfying qualitative conditions (a) – (d). The abstract

[27] Again these conditions are simplified for the sake of the example.

universal *gold* does not *itself* have the qualitative properties specified in the conditions for identity. Thus, it would seem that in the above discussion we must take 'gold' to mean 'a particular instance of *gold'*. Remember, however, that the bare definition of rigidity includes the relation of identity between objects in different possible worlds[28]. Pre-Kripkean rigidity makes the further claim that we can identify objects across possible worlds holding this relation by their satisfying certain qualitative conditions. What is interesting here is that the qualitative conditions used to identify the relation of identity are satisfied by the particular instances of gold (in a possible world); whereas what we find to be identical (that is to hold the relation of identity) across possible worlds when the conditions are satisfied are not the particulars, but the *universals*. Allow me to clarify:

Let us, for the sake of example, narrow all the possible worlds and objects down to w_1 containing particular instances $\mathbf{g_1} - \mathbf{g_2}$ of the universal *gold*, as well as the universal *gold*; w_2 containing particular instance $\mathbf{g_2}$ of the universal *gold*, as well as the universal *gold*; and w_3 containing particular instances $\mathbf{g_2}$ and $\mathbf{g_3}$ of the universal *gold*, as well as the universal *gold*. The bare definition of rigidity requires the relation of identity between objects in different possible worlds. The telescopic thesis states that this relation of identity across possible worlds is to be identified by the objects' satisfying a set of qualitative criteria. Let us take the qualitative criteria to be conditions (a) – (d) above. Now the objects satisfying these criteria in $w_1 - w_3$ are the particular instances $\mathbf{g_1} - \mathbf{g_5}$ of the universal *gold*, but the object that is identical across these possible worlds $w_1 - w_3$ is the universal *gold* – for $\mathbf{g_1}$ and $\mathbf{g_3}$ are not identical to any objects in any other possible worlds. Thus the qualitative conditions for identity are satisfied by the particulars across possible worlds, but serve to identify the universal across possible worlds.

Having considered the above, let us reformulate more precisely our notion of the rigidity of 'gold' in a pre-Kripkean sense: In order to identify the universal *gold* across possible worlds w_1 and w_2, we need to identify the universal, instances of which satisfy sufficiently many of qualitative conditions (a) - (d) in w_1 and w_2. (So, according to pre-Kripkean rigidity, the universal instantiated by metallic, yellow, ductile, malleable particulars in w_1 is the same universal as the universal that is instantiated by metallic, yellow, ductile, malleable particulars in w_2.) In order for the term 'gold' to refer to the universal *gold* in possible worlds w_1 and w_2, it must be associated

[28] That is, the metaphysical relation of identity as understood in footnote 20.

with the descriptive conditions (a) – (d) and its reference determined as the universal instantiated by the particulars satisfying sufficiently many of (a) – (d) in each possible world. Thus, the general term ‘gold’ is rigid in a pre-Kripkean sense if it is associated with the set of necessary and sufficient conditions for the identity of gold (a) – (d) and its reference is determined in each possible world to be the universal instantiated by the particulars satisfying sufficiently many of conditions (a) – (d) in that world, if there are such.

Now remember that what Kripkean rigidity and pre-Kripkean rigidity have in common is the reference of a term to an object in all possible worlds in which it exists. The two diverge in their claims of how the object is to be identified across all possible worlds in which it exists and how the term succeeds in referring to the identified object. If Kripkean rigidity is to rival pre-Kripkean rigidity in the case of the general term ‘gold’ above – as, I have argued, Kripke intends it to – it must incorporate reference by the term to the *same object* as Pre-Kripkean rigidity, diverging only in its claims as to how the object is identified and the reference established. Let us formulate it as such:

According to the stipulative thesis of identification, in order to identify the universal *gold* across possible worlds w_1 and w_2, we can stipulate its identity without taking into account the qualitative conditions fulfilled by instances of *gold* in each world. (So, in considering a possible world in which gold is blue, we are considering a possible world in which the universal instantiated by metallic, blue, ductile, malleable particulars is the same universal as the universal instantiated by metallic, yellow, ductile, malleable particulars in the actual world.) And in order for the term ‘gold’ to refer to the universal *gold* across possible worlds w_1 and w_2 – given that we have stipulated the identity of the universal *gold* across these possible worlds – the term need not have any associated descriptive conditions in virtue of which it does so. So the general term ‘gold’ is rigid in a Kripkean sense if we identify the universal *gold* across all possible worlds in which it exists – by stipulation – and then use the term ‘gold’ to refer to it in each of these possible worlds. I thus conclude that the object rigidly designated by a rigid general term like ‘gold’ is the relevant universal.

However, Kripke seems to suggest that rigidity is not only a feature of the referential relation between a general term and the relevant universal, but can also correctly be attributed to the referential relation between a general term and the *instances* of the relevant universal (that is,

the particulars instantiating the universal). He extends his claim that certain general terms "have a greater kinship with proper names than is generally realised… [from]… terms for natural phenomena, such as 'heat'… to corresponding adjectives [like] '*hot*'" (1980, p. 134, my italics). And later, when discussing the characteristics of statements flanked by two rigid general terms, he cites the example, "For all bodies x and y, x *is hotter than y* if and only if x *has a higher mean kinetic energy than y*" (1980, p. 138, my italics). The italicised terms in the above examples seem to me clearly to be terms whose primary reference is to the instance(s) of a universal, rather than the universal itself. (I will call these terms 'predicates'). However, it is worth noting that the rigidity attributed to predicates is a subsidiary form of rigidity related to the rigidity that is a feature of general terms – for the adjectives invoked are those *corresponding* to the relevant terms for natural phenomena. So, if we are to extend rigidity to cover predicates, I propose that it must be on the following understanding:

To claim that a given term is rigid in the Kripkean sense is to claim that the term refers to the same object in all possible worlds in which the object exists, but – more importantly – it is to say something about how the reference of the term is determined (viz. nondescriptively) and how the object to which it refers is identified (viz. by stipulation). The particulars instantiating the universal *u* in a given possible world can be identified in one of two relevant ways: First, they could be identified by their satisfying sufficiently many of the necessary and sufficient qualitative conditions for instantiation of the universal. Or, secondly, they could be identified as instances of *u* by stipulating that they are such. Similarly, in the case of the predicate 'is ***u***', the particulars to which the term is to be applied can be identified in one of two ways: We could apply the term descriptively, associating the necessary and sufficient qualitative conditions for instantiation of *u* with it, and determining the particulars in any possible world to which the term correctly applies to be the particulars satisfying sufficiently many of the associated conditions. Or we could apply the term nondescriptively, without requiring that the particulars in any possible world to which the term correctly applies satisfy specified qualitative conditions. Thus we see that two of the three elements in Kripkean rigidity can be found in predicates: The objects of certain predicates are identified by stipulation and certain predicates do apply to their objects nondescriptively. So, given Kripke's claims, perhaps it is correct to attribute (Kripkean) rigidity to a predicate in this sense.

I therefore propose the following interpretations of Kripke's notion of rigidity as extended to general terms and predicates respectively:

(G) A general term is rigid iff it fulfils the following conditions:

(a) It designates a universal *u* in some possible world, and

(b) It designates *u* in all possible worlds in which *u* has an extension,

(c) It designates nothing else in a world in which *u* has no extension, and

(d) It designates nothing else in a world in which *u* has an extension.

(P) A predicate is rigid iff it fulfils the following conditions:

(a) It applies to instances of a universal *u* in some possible world, and

(b) It applies to instances of *u* in all possible worlds in which *u* has an extension,

(c) It applies to instances of nothing else in a world in which *the universal* has no extension, and

(d) It applies to instances of nothing else in a world in which *u* has an extension,

I take the distinction between a general term and predicate contained in the above definitions to be as follows: The primary referential relation of a general term is to a universal. So, when the general term 'blue' is used to refer to *the colour blue*, it is a case of a general term. This referential relation is a 1:1 referential relation, and is the relation of designation. However, as a universal is characterised by its having instances, a general term consequently bears a secondary semantic relation to these instances. (It is in this secondary way that a general term has one or more potential referents in a given possible world as claimed in the introduction). It is these instances that determine the designation of a general term in a given possible world, and it is the

universal instantiated by these instances that is designated by the general term. The set of the instances I will call the 'extension' of the general term. A general term can be distinguished from another type of term whose primary reference is also a 1:1 relation – viz. a singular term – by the object of its primary reference. A general term refers to a universal, whereas a singular term refers to a particular.

A general term combines with a predicate-forming operator (like 'is' or 'is a' and their various tense and plural forms) to form a predicate. The primary referential relation of a predicate so formed is to the instances of the universal designated by the general term. For example, when I use the term 'is a cat' in reference to my cat, it is a case of a predicate. This referential relation is a 1:many relation holding between a predicate and each of the instances of the relevant universal. I will call this relation 'application'. (Thus a predicate is a term that has one or more primary referents in a given possible world). It is important to note that the referential relation holding between a predicate and an instance of a universal is not a straightforward referential relation: A predicate refers a property *to a* particular – more specifically, a predicate refers *the property of being an instance of (the relevant) universal* to the particular that is an instance of the relevant universal. As noted, the relevant universal is the one designated by the general term used to form the predicate. For example, when I state, 'My cat is black', I am referring *the property of being an instance of blackness* to a particular instance of blackness – viz. my cat. In this way it is distinct from a singular term whose primary relation is also to a particular instance of a universal, but whose reference to this instance is straightforward. For example, 'my cat' refers to the particular instance of *the kind cat* that I own. It is a case of a singular term, however, as *the property of being an instance of the kind cat* is not referred to a particular, but rather the particular instance itself is straightforwardly referred to.

This noted, we can distinguish between various copulas. The sentences 'My cat is black' and 'My favourite colour is black' are grammatically identical. However, in the first sentence 'is black' is being used predicatively – for *the property of being an instance of blackness* is referred to (or predicated of) my cat. An analogous point cannot be made for the latter sentence – *the property of being an instance of blackness* is not being predicated of my favourite colour. Rather, I am referring to the universal *the colour black* and identifying it as my favourite colour. Thus, the

term ‘black’ is a general term and is not being used predicatively, and the copula ‘is a’ in the first sentence is a predicate-forming operator whereas in the second it is not.

The definitions **(G)** and **(P)** given above constitute bare definitions of rigidity that incorporate no claims as to how the reference of the rigid term is to be determined or the relevant object identified across possible worlds. They thus function in a way analogous to the definition of proper name rigidity within Kripke’s broader argument. By adding the relevant qualifications to the above definitions we can obtain the relevant definitions of Kripkean rigidity and pre-Kripkean rigidity of general terms and predicates. This concludes my exposition of my favoured interpretation of the extension of the definition of rigidity from proper names to general terms and predicates.

III. Defence of the Accounts

In this Section, I will defend the interpretations **(G)** and **(P)** introduced above in relation to the opposing interpretations presented in Section I. (In the discussion below, I take 'rigidity' on its bare definition – as opposed to Kripkean or pre-Kripkean rigidity – unless otherwise specified).

The first objection raised against Soames's favoured interpretation **(B) –** which turned out to be an account of predicate rigidity – was that it sacrificed the 1:1 referential relation of designation for the 1:many relation of application and in this way was disanalogous to the rigidity of proper names. It is worth noting to begin that any account of predicate rigidity – that is, any account that locates rigidity in the primary referential relation holding between a predicate and instances of a universal – is subject to the same objection. And indeed the objection applies to my proposed interpretation of predicate rigidity, **(P)**.

In response to this, I have two points: First, the extension of rigidity from proper names to general terms / predicates is a case of extending the given definition *analogously*. Thus it is unreasonable to suppose that all relations contained in the original definition will be duplicated exactly in the extended definition. Further, it is unwise to expect points of analogy *blindly* without examining the reasoning leading up to the analogy. In the case of proper names, both the bare definition of rigidity and what I have termed 'Kripkean' rigidity play a certain role within Kripke's rejection of descriptivism and the telescopic theory of identification. So, if we obtain a bare definition of general term /predicate rigidity and an account of the Kripkean rigidity of general terms / predicates that play an *analogous* role within Kripke's broader arguments, we should adopt them even though certain details may be disanalogous to the case of proper names. In favour of this view, it is worth noting that on Kripke's explicit definition of 'designator' (1980, p. 24), none of his cited rigid general terms (1980, p. 134) are correctly termed 'designators', while later he explicitly states that the general term 'gold' is a "rigid designator" (1980, p. 136). I thus take it that we can allow ourselves a pinch of salt in Kripke's use of the word 'designator'.

Secondly, there is textual evidence for thinking that Kripke invokes a notion of predicate rigidity *as well as* a notion of general term rigidity. Kripke cites adjectives, like 'hot' and 'loud' (1980, p. 134), whose primary referential relation is plausibly within a predicate – that is, as referring the property of being an instance of the relevant universal to a particular instance of that

universal, rather than referring to the universal itself. Further, the general terms to which these adjectives correspond are cited separately in the given passage, giving us reason to suppose they form a separate class of rigid terms.

A further objection to Soames's account was its failure to render certain of Kripke's cited rigid general terms rigid – viz. the terms 'hot' and 'blue' emerge nonrigid on Soames's account. The alternative interpretation of predicate rigidity **(P)** I have proposed above is not subject to this objection, however. The predicate 'hot' – or more precisely 'is hot' – emerges rigid as it fulfils the following conditions for predicate rigidity: It applies to instances of the universal *heat* in some possible world, viz. the actual world. In all possible worlds in which *heat* has an extension, 'is hot' applies to instances of *heat* and nothing else. And, finally, in all possible worlds in which *heat* has no extension, 'is hot' does not apply to anything.

Before I discuss **(C)**, I wish to discuss my proposed interpretation **(G)** as a response to Salmon's account of general term rigidity **(D)**. The first objection posed to Salmon's account was its inability to account for the distinction between descriptive and nondescriptive general terms. It was supposed that in the case of proper names, rigidity distinguished nondescriptive from descriptive terms, and thus concluded that an adequate account of the rigidity of general terms should do so as well. However, as I hope to have made clear in Section II, the bare definition of rigidity in the case of proper names does not serve to distinguish rigid from nonrigid singular terms. There is the possibility[29] of descriptive rigid singular terms, given only the bare definition of rigidity cited by Kripke. This is because the bare definition incorporates no claims as to how an object is to be identified across possible worlds or reference is to be determined. So it is not true that rigidity (on its bare definition) distinguishes nondescriptive from descriptive terms in the case of singular terms. Thus we need not expect it to do so in the case of general terms.

Many authors focus on the definition of rigidity given by Kripke, without realising that this bare definition is not incompatible with descriptivism. As discussed in Section II above, there is an ambiguity present in the use of 'rigidity', both in *Naming and Necessity* and consequently in the current literature. I distinguished two uses – rigidity, understood as defined explicitly by Kripke (the 'bare definition' discussed above), and Kripkean rigidity, where claims contrary to the telescopic thesis of identification and the descriptivist thesis of reference are incorporated as part

[29] The logical possibility, at least.

of the term. It is Kripkean rigidity that distinguishes nondescriptive from descriptive terms in the case of proper names and similarly in the case of general terms (this is to be expected given its incorporation of claims contrary to descriptivism). Thus it is not problematic that we should find cases of descriptive rigid general terms, and this objection damages neither Salmon's nor my account of general term rigidity. [30]

The second problem faced by Salmon's account was its lack of correspondence between the universal relevant to a predicate and the universal relevant to the general term incorporated into the predicate. Recall that he claimed that the universal relevant to the general term 'the colour of the sky' was *the colour blue*, whereas the universal relevant to the predicate 'is the colour of the sky' was *(the property of being an instance of)* ***the colour of sky***, rather than *(the property of being an instance of) the colour blue*. This lack of correspondence has been rectified on my proposed interpretations **(G)** and **(P)**, as I take the universal relevant to the predicate to be the one corresponding to the universal relevant to the general term.

However, a problem is faced anew: Salmon denied correspondence in order to avoid all general terms – like predicates – emerging rigid. So, we must show that on **(G)** and **(P)** above not all general terms and predicates emerge rigid. This can be done by invoking Salmon's example of 'the colour of the sky': According to my definition of 'designation' in **(G)** above, the universal designated by a general term **g** in a possible world is that which is instantiated by the members in the extension of the general term. So, in the actual world, the universal instantiated by the members in the extension of the general term 'the colour of the sky' is *the colour blue*. Thus in the actual world, 'the colour of the sky' designates *the colour blue*. In a possible world in which the sky is red (w_1), the universal instantiated by the members in the extension of the term 'the colour of the sky' is *the colour red*. Thus in this possible world, the general term 'the colour of the sky' designates *the colour red.* So, according to **(G)**, the general term 'the colour of the sky' is a nonrigid designator. Similarly, the predicate 'is the colour of the sky' emerges nonrigid: According to our definition of 'application' in **(P)**, a predicate applies to the instances of the universal designated by the general term incorporated in it. Thus, in the actual world, 'is the

[30] It is interesting to note that artificial kind terms seem to emerge rigid in a Pre-Kripkean sense, whereas natural kind terms emerge rigid in a Kripkean sense. Many authors have claimed that rigidity should distinguish natural from artificial kind terms (for example, see Soames, 2002, p. 254). This claim gives further evidence for the ambiguity present in the use of 'rigidity', as *Kripkean* rigidity – but not rigidity understood on its bare definition – distinguishes natural kind from artificial kind terms.

colour of the sky' applies to instances of *the colour blue*, and in w_1 it applies to instances of *the colour red*. Thus, by our definition, the predicate 'is the colour of the sky' applies nonrigidly.

In fact, given the relation between **(G)** and **(P)**, it will be the case that the predicate formed by a nonrigid general term will always be nonrigid and the predicate formed by a rigid general term will always be rigid. And I hold this to be a primary virtue of the account – for Kripke does not invoke the rigidity of predicates as isolated from the rigidity of general terms. Indeed, as noted in Section II, his discussion can at times be construed as ambiguous between a given term functioning as a general term or as a predicate. Thus, we would expect the predicates corresponding to the cited rigid general terms similarly to emerge rigid.

An alternative to Soames's account of predicate rigidity was **(C)**, which also emerged as an account of predicate rigidity once the distinction between general terms and predicates was introduced. As noted in my above construal of the distinction, the universal relevant to a given predicate 'is ***u***' is *the property of being an instance of u*. If we understand 'designation', in the case of a predicate, to be the relation of the predicate to its relevant universal and construe rigidity as a feature of this relation, then it turns out that all predicates rigidly designate their relevant universals. Thus, on this account **(C)**, all predicates emerge trivially rigid. As discussed above, however, **(P)** faces no such problem.

A final objection I will consider concerns a point of disanalogy between **(P)** and **(A)**: In **(A)**, the object that is identified across all possible worlds in which it exists, is the object of the rigid reference. In the case of **(P)**, however, the object identified across all possible worlds in which it exists is the universal designated by the general term, whereas the object of the rigid reference is the *instance* of the universal to which the predicate applies. So it might be objected that **(P)** does not count as an account of rigidity.

In response to this I emphasise my point above that the role of the definition of rigidity within Kripke's overall semantic picture is more significant than disanalogous details. It is true that the bare definition of predicate rigidity I have proposed is not strictly analogous to the corresponding definition in the case of proper names. However, once incorporated into the more substantial notion of Kripkean rigidity, it plays the same role within Kripke's broader argument as the bare definition of proper name rigidity does once *it* is incorporated into the notion of Kripkean rigidity – viz. it constitutes a rejection of the telescopic thesis & descriptivist thesis in the case of a

certain class of terms. If we are to take this role as a fundamental feature of rigidity – as I propose we do – then **(P)** can be considered a successful interpretation of predicate rigidity, so long as the divergences from **(A)** are noted.

I thus conclude that interpretations **(G)** and **(P)** are more plausible interpretations of the extension of the definition of rigidity from proper names to general terms than interpretations **(B)** – **(D)** above.

In this paper, I hope to have shown that we can make sense of rigidity as a feature of both general terms and predicates in a way that is analogous to the rigidity of proper names. This can only be done when we distinguish rigidity as understood on its bare definition given by Kripke from the rigidity that features in the broader arguments found in *Naming and Necessity*. The latter of these includes claims about the identification of an object across possible worlds and about the determination of the reference of a term. These claims provide the key to finding a bare definition of general term and predicate rigidity that is successfully analogous to that of proper name rigidity.

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