

De Jure Rigidity

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Abstract

The rigid designation of proper names and natural kind terms is the most well-known doctrine of Kripke's *Naming and Necessity* (1981). On the basis of rigidity, Kripke has shown that proper names and natural kind terms do not refer via a description as argued by descriptivists. In response to Kripke several people have argued that all general terms could be interpreted rigidly, which would make the notion of rigidity trivial. This leads to the 'rigidity problem': the notion of rigidity cannot be used to argue against descriptivism anymore. I will show that the rigidity problem appears on a larger scale: firstly, because it appears independently of the trivialisation problem, secondly, because it appears for descriptions acting like singular terms as well. I will argue, however, that proper names and natural kind terms differ in an important manner from rigid descriptions. While the first are *de jure* rigid, the latter are *de facto* rigid. I will show that the rigidity problem indeed appears for *de facto* rigidity, but not for *de jure* rigidity, with the result that Kripke's argument against descriptivism can withstand.

1 Introduction

In *Naming and Necessity* (1981), Kripke introduces his well-known notion of rigid designation. Kripke defines a rigid designator as a designator that designates the same object in every possible world in which the object exists (1981, 48). In other words, a rigid designator is a referential expression that in every possible situation refers to the same object. According to Kripke, a specific kind of singular term, namely proper names (1981, 48), and a specific kind of general term, namely natural kind terms (1981, 134), are rigid designators. Kripke uses the notion of rigidity mainly to argue against descriptivism, which holds that the meaning of a term is determined by a description (1981, 6–15).

The notion of rigidity, however, has only been defined by Kripke for singular terms, which designate a single individual. General terms, on the other hand, designate more individuals

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at the same time. While Kripke says that natural kind terms are rigid designators, he does not define *what* they rigidly designate. Several philosophers have suggested that a rigid general term designates the same property or kind in every possible world (LaPorte 2000; Salmon 2005; Orlando 2014). I will call this theory henceforth the ‘kind-theory’. Some pointed out that the kind-theory would make *all* general terms rigid and thus would make the notion of rigidity trivial (Macbeth 1995; Schwartz 2002). For every description that acts like a general term, it would be possible to argue that it designates a certain abstract property or kind in every possible world¹. Hence, they argue, the concept of rigidity could be extended to all general terms, and thus would cease to be a useful concept to describe the different semantic behaviour of different kinds of terms. As a result, we encounter what I will call the ‘rigidity problem’: since it turned out that, apart from natural kind terms, every general term could be interpreted rigidly, rigidity cannot be used to argue against descriptivism anymore, as the other general terms do refer via a description.

Some hold that the trivialisation problem simply cannot be solved (Schwartz 2002; Soames 2002; Haraldsen 2017). Therefore, they argue that the notion of rigidity should not be applied to general terms at all. The result of this is that we cannot argue by means of the notion of rigidity that natural kind terms do not refer via a description. Others wanted to defend the claim that natural kind terms are rigid designators. They therefore tried to overcome the trivialisation problem either by showing that not all general terms are rigid (LaPorte 2000; Salmon 2005; Orlando 2014), or by trying to give another theory of what a general term designates (Devitt 2005).

Solving the trivialisation problem, however, will not suffice, since the rigidity problem appears on a larger scale. Firstly, because there are general terms that turn out to be rigid independently of the kind-theory. Secondly, because there are singular terms that turn out to be rigid as well (Kaplan 1978). The description ‘that woman—the one that has won the Nobel prize—is brilliant’, for example rigidly designates the winner of the Nobel prize. The rigidity of this singular term does not refute descriptivism either. As a result, the rigidity problem has been enlarged: the problem not only arises for general terms, but for the notion of rigidity in general.

To solve the rigidity problem, it is thus needed to show that the notion of rigidity can still be used to refute descriptivism for certain terms. It is my aim in this paper to show that this is possible and thus that the rigidity problem can be solved. In order to do this, I will show in §2 that Kripke’s reason to draw attention to the notion of rigidity is that it is required in his argument against descriptivism. In §3, I will show that the rigidity problem consists in the fact that the critique of descriptivism is undermined. In §4, I propose my own solution for the rigidity problem which is to make a distinction between *de jure* rigidity and *de facto* rigidity. I

1. Apart from descriptions acting like general terms, it is sometimes argued that all artificial kind terms can be interpreted rigidly according to the kind-theory. Meanwhile, there are several philosophers who hold that artificial kind terms cannot be interpreted rigidly due to the kind-theory (Orlando 2014). The rigidity of artificial kind terms is a matter of dispute that is too big to discuss here. However, it will not affect my main point (see footnote 5).

will show that *de jure* rigidity can be used to argue against descriptivism, with the result that Kripke's argument against descriptivism can withstand.

2 Rigidity to argue against descriptivism

In *Naming and Necessity* (1981) Kripke argues against descriptivism of names as advocated by Russell and Frege. Kripke offers different objections to descriptivism, which we can roughly divide into three categories: modal arguments, semantic arguments and epistemic arguments. In this section, I will present Kripke's modal argument, since this argument is interconnected with the notion of rigidity, as I will show.

Descriptivism holds that a name has an associated description or cluster of descriptions that gives the meaning of the name (Kripke 1981, 27)². Assume that we associate the description 'the last great philosopher of antiquity' with the name 'Aristotle'. We should then analyse sentence (1), according to descriptivism, as sentence (2) (Kripke 1981, 6–7):

- (1) Aristotle was fond of dogs.
- (2) The last great philosopher of antiquity was fond of dogs.

That descriptivism is erroneous becomes apparent when we compare the truth-values of sentences (1) and (2) in different possible worlds. We will see that sentence (1) is true in other worlds than sentence (2), from which follows that sentence (1) and (2) have different modal profiles. Sentence (2) is true in the actual world if Aristotle was actually fond of dogs, since in the actual world Aristotle satisfies the description 'the last great philosopher of antiquity'. That Aristotle was the last great philosopher of antiquity, is however not a necessary property of Aristotle. It might have been the case that someone else was the last great philosopher of antiquity. In such a situation, sentence (2) will be true *if that other person*, not Aristotle, was fond of dogs. In contrast to sentence (2), sentence (1) will always be true only if Aristotle, and *not some other person*, was fond of dogs. In this way, Kripke has shown that, contrary to what descriptivists argue, sentences (1) and (2) have different modal profiles and hence different meanings.

To clarify the different modal behaviour of the name 'Aristotle' and the description 'the last great philosopher of antiquity', Kripke introduces the notion of a rigid designator. A rigid designator designates the same object in every possible world in which the object exists (1981, 48). Kripke argues that all proper names are rigid designators (1981, 49). Although Aristotle might not have been the last great philosopher of antiquity, it is not the case that Aristotle might not have been Aristotle. Thus in every possible world the proper name 'Aristotle' designates the same person. The description 'the last great philosopher of antiquity' is on the other hand not a rigid designator. If we think of a situation in which the last great philosopher was a woman, we are not thereby thinking of a situation in which Aristotle was a woman. More generally, when we use a description to describe another possible world, we refer to whom—or whatever satisfies

2. There are also description theories that hold that a description only determines the reference of a name. I will not discuss this kind of descriptivism here, since Kripke's argument only refutes description theories of meaning (Kripke 1981, 5).

that description in that other world, independently of whom or what satisfies the description in the actual world. Thus a description does not designate the same object in every possible world, which makes it a non-rigid designator. Since proper names are rigid designators and definite descriptions are non-rigid designators, it follows that names cannot be equivalent to descriptions as descriptivists argue. In this way, Kripke has shown that we have a direct intuition of the rigidity of proper names, which is exhibited in our understanding of the truth conditions of particular sentences (1981, 14).

Kripke argues that we have the same intuition for natural kind terms, hereby showing equally that these terms are not synonymous with a description (1981: 134–35). We can demonstrate this by means of the following example:

- (3) Water is used to make tea.
- (4) A transparent liquid is used to make tea.

That descriptivism is erroneous for natural kind terms, becomes again clear when we compare the truth-values of sentences (3) and (4) across possible worlds. We will see, as in the case of sentence (1) and (2), that sentence (3) and (4) are true in different possible worlds. Sentence (3) is true if and only if water, *and not any other substance*, is used to make tea. Sentence (4), on the other hand, is true if a transparent liquid, *which might be another substance than water*, is used to make tea. Consider a situation in which vodka is used to make tea. In such a situation, sentence (3) is false, but sentence (4) is true. If ‘water’ means ‘a transparent liquid’, then sentence (3) and (4) could not differ in truth-value in any counterfactual situation. We see, however, that sentence (3) and (4) have different modal profiles and hence different meanings. Kripke has shown in this way that we do not refer to natural kinds by means of a description. In conclusion, the reason that Kripke draws attention to the notion of rigidity is that it is needed to argue against descriptivism.

3 The rigidity problem

In what follows, I will show how the trivialisation problem emerged from the kind-theory. Due to this theory, every description that acts like a general term can be interpreted rigidly, which makes the notion of rigidity trivial. The consequence of this is the rigidity problem: rigidity cannot be used to argue against descriptivism anymore. I will show, however, that not only the trivialisation problem undermines Kripke’s critique of descriptivism. Firstly, because there are descriptions acting like general terms that turn out to be rigid independently of the kind-theory. Secondly, because there are descriptions acting like singular terms that turn out to be rigid as well. The consequence of this is that Kripke’s argument against descriptivism is not only at stake for general terms, but for the notion of rigidity in general. The rigidity problem thus appears on a larger scale.

As pointed out earlier, the definition of a rigid designator only applies to singular terms, not to general terms. Therefore some have developed the kind-theory, according to which a

rigid general term designates the same property or kind in every possible world (LaPorte 2000; Salmon 2005; Orlando 2014). In response to this, others pointed out that as a result, every description acting like a general term could be interpreted rigidly (Martí and Martínez-Fernández 2011). For example, the description ‘the colour of the sky’ in a sentence like ‘My true love’s eyes are the colour of the sky’, can be interpreted in two ways. Firstly, it can be interpreted as designating the colour that is the colour of the sky, which in our world is blue, but which in other worlds might be another colour. In this case, ‘the colour of the sky’ is a non-rigid general term. It is non-rigid, because it designates different colours in different worlds. It is a general term, because a colour can apply to more individuals at the same time. Secondly, ‘the colour of the sky’ could also designate the ‘property of being the colour of the sky’. This is a description that acts like a general term, since a property can apply to more individuals at the same time. In this case, ‘the colour of the sky’ is a rigid designator, since it designates the same property in every possible world. In this way, it turned out that due to the kind-theory all general terms can be interpreted rigidly, which makes the notion of rigidity trivial.

The consequence of the trivialisation problem is that Kripke’s argument against descriptivism is undermined. Kripke’s argument showed that rigid terms do not refer via a description. Due to the trivialisation problem, however, it turned out that there are rigid terms that do refer via a description, since they simply *are* descriptions. ‘The property of being the colour of the sky’ refers to that property, via the description ‘the property of being the colour of the sky’. So it is not the case here that the notion of rigidity demonstrates that descriptivism is not adequate for these terms. For this reason, the notion of rigidity cannot be used to argue against descriptivism anymore. This is the rigidity problem. The rigidity problem can only be solved by showing that the notion of rigidity can still be used to argue against descriptivism. To solve the problem, it is therefore not right just to show that not all general terms are rigid, as some have tried (LaPorte 2000; Salmon 2005; Orlando 2014). We need to show that those and only those terms that do not refer via a description are rigid.

The other given solution to formulate another theory of what a rigid general term designates (Devitt 2005), will not solve the rigidity problem either. There are descriptions acting like general terms that are rigid, independently of the kind-theory. Firstly, this is the case with essentialist descriptions (Kaplan 1978). Essentialist descriptions are descriptions that pick out their object by properties that the object necessarily satisfies uniquely. An example of an essentialist description is ‘the substance with molecular formula H_2O ’. Secondly, there are rigidifying operators that make descriptions rigid. Kaplan has argued that this is the case with demonstratives (1978). For example, in the sentence ‘that liquid—the one with the molecular structure H_2O —is transparent’, the demonstrative ‘that’ rigidly designates water. Apart from demonstratives, the word ‘actual’ is a rigidifying operator. In every possible world the word ‘actual’ causes the description to refer to the actual world, so that in every possible world the description will refer to the same object. For example, ‘the actual liquid that is filling the seas’ will in every possible world refer to the liquid that is actually filling the seas. So it will refer in every possible world to water.

Essentialist descriptions not only make descriptions acting like general terms rigid, but also

descriptions acting like singular terms. This is for example the case with the description ‘the smallest prime number’. This description necessarily picks out the number two, since it is the only number that has the property of being the smallest prime number. Also rigidifying operators make descriptions that act like singular terms rigid. For example in the sentence ‘that woman—the one that has won the Nobel prize—is brilliant’, the demonstrative ‘that’ rigidly designates the winner of the Nobel prize. The same holds for the rigidifying operator ‘actual’: ‘the actual prime minister of the Netherlands’ will in every possible world refer to the person who is the prime minister of the Netherlands in the actual world. So apart from general terms, there are singular terms that turn out to be rigid. For these singular terms, rigidity cannot be used to argue against descriptivism either. The rigidity problem is thus a problem just as much for singular terms as for general terms.

In sum, it turned out that some descriptions that act like singular terms and some descriptions that act like general terms are rigid. The rigidity of these descriptions did not show us that these terms do not refer via a description, as it did for proper names and natural kind terms. In this way, the rigidity problem arose: rigidity cannot be used to argue against descriptivism anymore.

4 *De jure* and *de facto* rigidity

Kripke is aware that some philosophers argue that there is a rigid sense of definite descriptions (1981, 6n8). He says, however, that he is not convinced of this, ‘but if these philosophers are right, my principal thesis is not affected’ (1981, 6n8). I have just shown that these philosophers are right. In what follows, I will argue that Kripke is right to claim that his principal thesis, that proper names and natural kind terms do not refer via a description, is nonetheless not affected. This becomes clear if we acknowledge that there is an important distinction between proper names and natural kind terms on the one hand, and rigid descriptions on the other hand. While the first are *de jure* rigid, the latter are *de facto* rigid. I will show that *de jure* rigidity refutes descriptivism for certain terms, while *de facto* rigidity cannot be used to argue against descriptivism.

A rigid designator can designate the same object in every possible world in two different ways, which leads to a distinction between two different kinds of rigid designators. The first kind is a *de jure* rigid designator: a *de jure* rigid designator designates the same object in every possible world purely in virtue of its semantic kind. In this case, the semantical rules of the language directly link the term to the object. These semantical rules come about by means of stipulation. The second kind is a *de facto* rigid designator: a *de facto* rigid designator designates the same object in every possible world in virtue of expressing a description that happens to designate the same object in every possible world. Hence, *de facto* rigid designators are rigid not because of semantical rules, but because of non-linguistic facts³.

3. Kripke admits that he has ignored the distinction between *de jure* and *de facto* rigid designators, but he does give a rough sketch of what the distinction is (1981, 21n21). According to Kripke, in the case of a *de jure* rigid

The term ‘two’ for example is a *de jure* rigid designator of the number two. The term ‘two’ is a proper name with which we associate particular semantical rules. These semantical rules determine that the term ‘two’ will designate the number two in all possible worlds. So the term ‘two’ is rigidly linked to the number two because of semantical rules, which makes it a *de jure* rigid designator. ‘The smallest prime’, on the other hand, is a *de facto* rigid designator of the number two (Kripke 1981, 21n21). It is not possible that another number would be the smallest prime. This follows not from semantical rules, but from the metaphysical fact that mathematical facts are true in all possible worlds. ‘The smallest prime’ is thus via a non-linguistic fact rigidly linked to the number two, which makes it a *de facto* rigid designator.

Proper names and natural kind terms are *de jure* rigid. When we give someone a name x , we stipulate that from now on when using that name x , we refer to *that* person⁴. The same holds for natural kind terms. When introducing a natural kind term, we equally stipulate that it will refer to *that kind of thing*. We may use a description to determine the reference of a natural kind term, but this description will never be the meaning of the natural kind term. As an example, Kripke points out that we may determine the reference of the term ‘light’ by the fact that it affects our eyes in a certain way (1981, 130). However, it might have been the case that all people were blind and that light would not affect our eyes. In such a situation, we would not say that light did not exist. Rather, we would say that light existed in that case, although our associated description with light would not be adequate. In this way, Kripke shows that ‘light’ does not mean the same as ‘that which affects our eyes in a certain way’. From this it follows that natural kind terms cannot be *de facto* rigid designators. If they were *de facto* rigid designators, then light had to mean the same as its description, which on its turn would happen to be rigid because of non-linguistic facts. Since light is not equivalent to some description, it must be the case that the term ‘light’ is directly linked to the natural phenomenon of light, due to the semantical rules which arose from stipulation. So both proper names and natural kind terms refer rigidly because of semantical rules that arose from stipulation. This makes them *de jure* rigid designators⁵.

Definite descriptions are, if rigid, *de facto* rigid. Descriptions designate objects by means

designator ‘the reference of a designator is stipulated to be a single object’, while in the case of a *de facto* rigid designator ‘a description “the x such that Fx ” happens to use a predicate “ F ” that in each possible world is true of one and the same unique object’ (1981, 21n21). I think my elaboration of the distinction coincides with this rough sketch.

4. Bostock (1988) and Evans (1979) have pointed out that some proper names refer via a description. Kripke admits that this might be true (1981, 79–80), but I cannot discuss the matter here. If true, however, my argument should be adjusted slightly: not *all* proper names are *de jure* rigid. My main point could withstand: *de jure* rigid designators could still be used to argue against descriptivism, although there might not be a specific group of terms that is *de jure* rigid.

5. As I pointed out in footnote 1, some hold that artificial kind terms are rigid designators in the sense that they refer to the same kind in every possible world due to semantical rules. This would make artificial kind terms belong to the *de jure* rigid designators. I also pointed out that others hold that artificial kind terms are not rigid. In either case, my main point, that *de jure* rigid designators do not refer via mediation of a description, will not be affected. The only doubt here is whether we should count artificial kind terms as *de jure* rigid designators or as non-rigid designators.

of a description as we saw earlier. If then descriptions are rigid, they have constant reference via mediation of some description that happens to designate the same object in every possible world. I illustrated this above by means of the description ‘the smallest prime’. Descriptions refer thus, if rigid, always via a description, which make them *de facto* rigid designators.

It is a more controversial issue whether a description that contains a demonstrative refers via a description. Earlier we saw the sentence: ‘that woman—the one that has won the Nobel prize—is brilliant’. Here it seems we are stipulating at this very moment that ‘that woman’ will always refer to the woman that has won the Nobel prize and thus that it is a *de jure* rigid designator. Kaplan (1978) for example holds this. However, what a demonstrative designates is always a matter of context. That ‘that woman’ refers rigidly to the winner of the Nobel prize is determined by the context of utterance, or in other words by the way that ‘that woman’ is described. Without a context of utterance ‘that woman’ refers to nothing. I cannot see therefore, how a demonstrative could designate an object purely in virtue of its semantic kind, since a context of utterance is always needed to determine the referent. Hence, I hold that definite descriptions containing demonstratives are *de facto* rigid as well⁶.

I have shown that the reason that Kripke draws attention to the notion of rigidity is that it is needed to argue against descriptivism. We can now say that *de jure* rigidity is the notion that is needed to argue against descriptivism. In the case of *de facto* rigidity, however, the reference of a term is determined by means of a description. From this it follows that *de facto* rigidity cannot be used to argue against descriptivism. Due to the *de jure–de facto* distinction, we have killed two birds with one stone. Firstly, we have justified Kripke’s claim that descriptivism is not adequate for proper names and natural kind terms, even though more terms turned out to be rigid. Secondly, we have solved the trivialisation problem with regard to *de jure* rigid terms. It might be the case that all terms can be interpreted as *de facto* rigid, but at least I have shown that not all terms can be interpreted as *de jure* rigid. Hence, *de jure* rigidity is an important, non-trivial notion which we can use to argue against descriptivism for certain terms, as Kripke justly has pointed out.

Devitt also holds that the notion of rigidity must refute descriptivism for proper names and natural kind terms (2005, 144)⁷. Devitt introduces the notion of ‘rigid application’ for general terms: ‘a general term “*F*” is a rigid applicer iff it is such that if it applies to an object in any possible world, then it applies to that object in every possible world in which the object exists’ (2005, 146). According to Devitt, this notion refutes *most, but not all* description theories for names and natural kind terms, since there are descriptions acting like singular terms (2005, 145) and descriptions acting like general terms (2005, 147) that are rigid. He gives the following

6. As in the cases pointed out in footnote 4 and 5, even if demonstratives would turn out to be *de jure* rigid, my main point would not be affected.

7. Schwartz (2002) also thinks that rigidity should have a theoretical work if it is not to be trivial. Schwartz, however, has another, and in my opinion wrong, conception of what the theoretical work is that the notion of rigidity should have. He namely thinks that rigidity is supposed to distinguish natural kind terms from artificial ones (2002, 273). According to Schwartz, general term rigidity fails to do this and therefore the notion of rigidity should only be applied to singular terms (2002, 275–76). As I showed in section 2, however, this is not the reason that Kripke draws attention to the notion of rigidity.

example of a singular term rigid applier that refers via a description: ‘the person who was *actually* the last great philosopher of antiquity’ (2005, 145). Equally, he gives the example ‘stuff with atomic number 79’ and points out that this is a general term rigid applier, although it does refer via a description (2005, 147).

Because on Devitt’s solution rigidity *most, but not all*, of the times refutes descriptivism, the solution does not seem convincing. In claiming that rigidity should be able to be used to argue against descriptivism, the notion should be able to refute descriptivism consistently. Moreover, Devitt only provides a solution for general terms, while my solution applies to singular terms as well as general terms. The solution I propose is therefore favourable over the one from Devitt, since in my solution *de jure* rigidity *always* can be used to refute descriptivism for certain terms.

5 Conclusion

In this paper, I have shown that a term can be rigid in two ways. A *de jure* rigid designator designates the same object in every possible world in virtue of its semantic kind. A *de facto* rigid designator designates the same object in every possible world in virtue of expressing a description which happens to designate the same object in every possible world. Due to the *de jure–de facto* distinction, rigid terms that do not refer via a description, namely proper names and natural kind terms, are clearly separated from rigid terms that do refer via a description, namely rigid descriptions. Consequently, the notion of rigidity, understood as *de jure* rigidity, can be used to refute descriptivism for certain terms. In this way, I have shown how the rigidity problem could be overcome in a way that is compatible with Kripke’s claim that rigid terms, understood as *de jure* rigid, do not refer via a description.

There is some secondary work that the notion of rigidity fulfils that I have not discussed in this paper. For instance, Kripke has argued that an identity statement in which both designators are rigid must be, if true, necessarily true, even if the statement is *a posteriori*. I think my distinction between *de jure* and *de facto* rigidity coincides with this secondary work in the following way: an identity statement containing two *de jure* rigid designators is necessarily true, while an identity statement containing two *de facto* rigid designators is not always necessarily true. I am afraid, however, that future research should decide whether I am right about this. Besides that, it is still not clear whether the kind-theory applies to rigid general terms. I have shown that the kind-theory could apply to general terms, because my proposal to make a distinction between *de jure* and *de facto* rigidity shows that the trivialisation problem does not apply to *de jure* rigid general terms. But there might be other reasons to adhere or reject the kind-theory, which I cannot discuss here. What I wanted to point out in this paper is that rigidity, understood as rigidity *de jure*, is not a trivial notion, but an important and indispensable one to argue against descriptivism.

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