



# Mind, Matter and Language

Philosophy of Language

**Proper Names, Direct Reference, and Rigid Designation**



THE UNIVERSITY  
*of* EDINBURGH

## Outline

From Millianism to Descriptivism  
 Descriptivism about Names  
 The Intensions of Names and Descriptions

From Descriptivism to Millianism

Direct Reference, Rigidity, and the Causal Theory of Reference

Problems





## Millianism

- According to Mill, the meaning of a name is *exhausted* by its **reference** (which Mill referred to as **denotation**).
- In other words, the meaning of a name is simply its reference. For example, the meaning of 'Bob Dylan' is just Bob Dylan.
- This view of names is generally referred to as **Millianism**.



## Frege's Puzzle

- However, as Frege pointed out, there is a significant problem for **Millianism**. Consider the sentences in (1) and (2):
  - (1) Bob Dylan is Bob Dylan.
  - (2) Bob Dylan is Robert Zimmerman.
- Since these names are co-referential, their truth conditions are identical (below, we assume that  $a$  is the individual named by both these names).
 
$$\left. \begin{array}{l} (1) \llbracket \text{Bob Dylan is Bob Dylan} \rrbracket \\ (2) \llbracket \text{Bob Dylan is Robert Zimmerman} \rrbracket \end{array} \right\} \text{ is true iff } a = a$$
- So, if **Millianism** is correct, the sentences in (1) and (2) have identical meanings. This is intuitively false.





## Descriptions and Names

- **Descriptivism about names** (e.g. the views proposed by Frege and Russell) are argued to provide a solution to this problem. According to **descriptivism**, the meaning of a name is fundamentally descriptive, e.g.

‘Bob Dylan’  $\Rightarrow$  ‘the musician who wrote *Like a Rolling Stone*’

‘Robert Zimmerman’  $\Rightarrow$  ‘the lead singer of *The Golden Chords*’

- However, an analysis of names as descriptions helps solve Frege’s puzzle only if there is some fundamental difference between the meaning of name and the meaning of a description.





## Descriptions and Names (cont.)

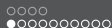
- This difference is clearly not an **extensional** difference, since the name ‘Bob Dylan’ has the same **extension** (reference) as its associated description ‘the musician who wrote *Like a Rolling Stone*’.

$$\llbracket \text{Bob Dylan} \rrbracket_{ext} = \text{Bob Dylan}$$

$$\llbracket \text{The musician who wrote } \textit{Like a Rolling Stone} \rrbracket_{ext} = \text{Bob Dylan}$$

- Rather, the crucial difference between the meaning of name and the meaning of a description is **intensional**.





## The Intensions of Names

- Remember, **intensions** are functions from possible worlds to extensions. For example, the intension of the predicate 'cordate' is a function from possible worlds  $w$  to the set of individuals with a heart in  $w$ .
- But if the meaning of a name is exhausted by its reference, i.e. a specific individual (as **Millianism** assumes), its intension is going to be a **constant function**.

$$\llbracket \text{Bob Dylan} \rrbracket_{int} = \lambda w . \text{Bob Dylan}$$

- This function is **constant** in the following sense: It outputs Bob Dylan regardless of its input.





## The Intensions of Names (cont.)

- Think of it this way:
  - If asked “Who is Bob Dylan at  $w$ ?” (where  $w$  is some random possible world), the answer is simply Bob Dylan.
- The identity of Bob Dylan *does not* (and *cannot*) vary across possible worlds.  
*(there might, of course, be possible worlds where Bob Dylan does not exist, but in every world where he exists, he is the same individual.)*





## The Intensions of Definite Descriptions

- By contrast, the **intension** of a definite description is a **non-constant function**.
- The reason is that a definite description consists of the determiner ‘the’ and a predicate. For example, the description in (3) consists of ‘the’ and the predicate ‘Queen of England’.

(3) The Queen of England

- Since Elizabeth II is the unique individual who *actually* instantiates the predicate ‘Queen of England’, the **extension** of (3) is Elizabeth II.

$[[\text{The Queen of England}]]_{ext} = \text{Elizabeth II}$



## The Intensions of Definite Descriptions (cont.)

- However, as noted in previous lectures, a predicate may have different extensions across different possible worlds. For example, there are possible worlds where someone other than Elizabeth II instantiates the predicate 'Queen of England'.
- Since other individuals *could* instantiate this predicate (i.e. at other possible worlds), the **intension** of (3) is going to vary.

$\llbracket \text{The Queen of England} \rrbracket_{int} = \lambda w . \text{The Queen of England in } w$

- That is, the **intension** of (3) will output different extensions relative to different possible worlds. For example...





## The Intensions of Definite Descriptions (cont.)

- We can imagine that the predicate ‘Queen of England’ has the following extensions across the possible worlds  $w_1$ ,  $w_2$ , and  $w_3$ .

$w_1$   $[[\text{Queen of England}]_{ext} = \text{Elizabeth II}$

$w_2$   $[[\text{Queen of England}]_{ext} = \text{Adele}$

$w_3$   $[[\text{Queen of England}]_{ext} = \text{Rihanna}$

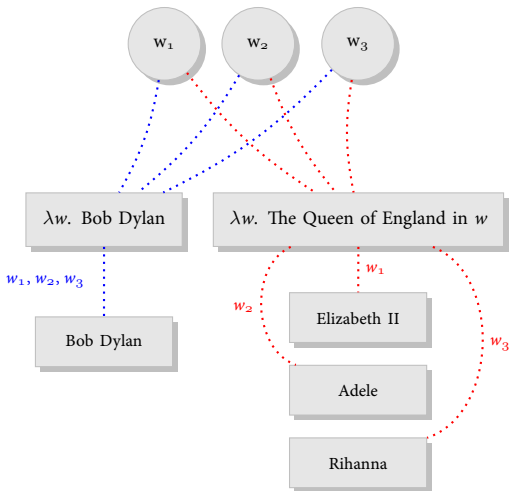
- By contrast, the *name* ‘Bob Dylan’ always has the same extension:

$$\left. \begin{array}{l} w_1 \quad [[\text{Bob Dylan}]_{ext} \\ w_2 \quad [[\text{Bob Dylan}]_{ext} \\ w_3 \quad [[\text{Bob Dylan}]_{ext} \end{array} \right\} = \text{Bob Dylan}$$

- Given this, the intension of (3) is going to output the following extensions relative to  $w_1$ ,  $w_2$ , and  $w_3$ .



## The Intensions of Definite Descriptions (diagram)



## The Intensions of Definite Descriptions (cont.)

- From this it follows that the **intensions of two co-extensional names** are identical:

$$\llbracket \text{Bob Dylan} \rrbracket_{int} = \llbracket \text{Robert Zimmerman} \rrbracket_{int}$$

$$\text{i.e. } [\lambda w . \text{Bob Dylan}] = [\lambda w . \text{Robert Zimmerman}]$$

- However, the **intensions of two co-extensional descriptions** need *not* be identical.

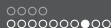
$$\llbracket \text{The musician who wrote } \textit{Like a Rolling Stone} \rrbracket_{int} \neq$$

$$\llbracket \text{The lead singer of } \textit{The Golden Chords} \rrbracket_{int}$$

$$\text{i.e. } [\lambda w . \text{The musician ... in } w] \neq [\lambda w . \text{The lead singer ... in } w]$$

- Consequently, if **descriptivism** is correct, i.e. if names are in fact descriptions, there is now a straightforward solution to Frege's puzzle.





## The Descriptivist Solution to Frege's Puzzle

- First, let's assume that the meaning of 'Bob Dylan' is 'the musician who wrote *Like a Rolling Stone*'. Consequently, the meaning of (1) is (4).

(1) Bob Dylan is Bob Dylan.

(4) The musician who wrote *Like a Rolling Stone* is the musician who wrote *Like a Rolling Stone*.

- The two descriptions in (4) are identical, so the descriptions are both **extensionally** and **intensionally equivalent**.
- Consequently, there are no possible worlds where (1) is false.

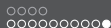




## The Descriptivist Solution to Frege's Puzzle (cont.)

- By contrast, if we assume that the meaning of 'Robert Zimmerman' is 'the lead singer of *The Golden Chords*', the meaning of (2) is (5).
  - (2) Bob Dylan is Robert Zimmerman.
  - (5) The musician who wrote *Like a Rolling Stone* is the lead singer of *The Golden Chords*.
- The descriptions in (5) are also extensionally equivalent, but they are *not intensionally equivalent*. In particular, there are possible worlds where the musician who wrote *Like a Rolling Stone* is not identical to the lead singer in *The Golden Chords*.
- So, given this analysis, there are possible worlds where (2) is false.





## The Descriptivist Solution to Frege's Puzzle (cont.)

- When meaning is explicated in terms of **intensions**, the meaning of a sentence is a function from possible worlds to truth values—also called a **proposition**.
- Since there are possible worlds where (1) and (2) differ in truth value, it follows that (1) and (2) express *different* propositions.
- As mentioned in previous lectures, one can also think of propositions in terms of **sets of possible worlds** (i.e. the set where the proposition is true). If so, the propositions expressed by (1) and (2) denote different sets of possible worlds.
- In conclusion, **descriptivism** predicts that (1) and (2) have different meanings. Consequently, Frege's puzzle is solved.





## Outline

From Millianism to Descriptivism

From Descriptivism to Millianism

Problems for Descriptivism

The Epistemic Argument

The Modal Argument

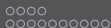
The Semantic Argument

Names and Indefinite Descriptions

Direct Reference, Rigidity, and the Causal Theory of Reference

Problems





## Kripke's Attack on Descriptivism

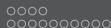
- In 'Naming and Necessity', Kripke raises a number of problems for **descriptivism**. We will consider the following three arguments:
  - a. The Epistemic Argument
  - b. The Modal Argument
  - c. The Semantic Argument



## The Epistemic Argument

- Let's suppose that **descriptivism** is correct. For example, let's suppose that the meaning of the name 'Aristotle' is 'the teacher of Alexander (the Great)'. Now consider the sentence in (6).
  - (6) Aristotle was the teacher of Alexander.
- If descriptivism is correct, the meaning of (6) is simply (7).
  - (7) The teacher of Alexander was the teacher of Alexander.
- However, notice that that (7) is **analytic**, i.e. true solely in virtue of its meaning, and thus knowable **a priori** (knowable by reasoning alone).

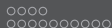




## The Epistemic Argument (cont.)

- The problem is that (6) is intuitively neither analytic nor knowable a priori.
  - (6) Aristotle was the teacher of Alexander.
- Rather, coming to know that (6) is true seems to essentially involve some kind of empirical discovery.
- So, **descriptivism** appears to incorrectly attribute a priori knowledge to speakers simply in virtue of being competent with the meaning of a name.





## The Modal Argument

- Remember, if **descriptivism** is correct, i.e. if names are descriptions, names have **non-constant intensions**.
- That is, if names are descriptions, it should be possible for a name to refer to different individuals at different possible worlds.



## The Modal Argument (cont.)

- Kripke's **modal argument** demonstrates that this assumption gives rise to several intuitively incorrect predictions. Consider (7) and (8).
  - (7) Aristotle might not have been the teacher of Alexander.
  - (8) Aristotle might not have been Aristotle.
- The sentence in (7) is intuitively true. Aristotle *could* (in some **counterfactual** circumstance) have decided to become, say, a carpenter—rather than a philosopher and teacher.
- By contrast, (8) is intuitively false. Aristotle *could not* (in *any* circumstance) have failed to be self-identical.



## The Modal Argument (cont.)

- The problem is that this intuitive difference in truth values is completely mysterious if **descriptivism** is correct, because according to **descriptivism**, (7) and (8) mean the same thing.
  - (7) Aristotle might not have been the teacher of Alexander.
  - (8) Aristotle might not have been Aristotle.





## The Modal Argument (cont.)

- Kripke's general point is that the **modal profile** of names is different from the modal profile of descriptions.
- That is, even in statements that concern what *might have been* or *could have been* (i.e. statements about **possible states of affairs** or simply **possible worlds**), the meaning of a name is intuitively just its reference.

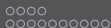




## The Modal Argument (cont.)

- Consider the sentences below.
  - (10) Barack Obama should decline donations from Wall Street.
  - (11) The president of the United States should decline donations from Wall Street.
- The sentences in (10) and (11) can both be interpreted as making a claim about what *Barack Obama* should do.
- However, notice that (11), but not (10), can also be interpreted as a claim about what presidents of the United States *quite generally* should do.
- In other words, (10) seems to be fundamentally *about* Barack Obama, whereas (11) also has a possible interpretation where it is about presidents more generally.





## The Semantic Argument

- The mathematician Kurt Gödel is mostly famous for proving the incompleteness of arithmetic.
- So, following **descriptivism**, let's assume that the descriptive meaning of the name 'Gödel' is 'the man who discovered the incompleteness of arithmetic'.

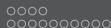


## The Semantic Argument (cont.)

- Kripke now imagines the following (counterfactual) scenario:

*Suppose that Gödel was not in fact the author of this theorem. A man named 'Schmidt', whose body was found in Vienna under mysterious circumstances many years ago, actually did the work in question. His friend Gödel somehow got hold of the manuscript and it was thereafter attributed to Gödel. On the view in question, then, when our ordinary man uses the name 'Gödel', he really means to refer to Schmidt, because Schmidt is the unique person satisfying the description 'the man who discovered the incompleteness of arithmetic.'* (Kripke 1980: 84)





## The Semantic Argument (cont.)

- Suppose that the speaker asserts (12).
- (12) Gödel did not prove the incompleteness of arithmetic.
- Assuming that Gödel was a fraud who stole the proof from Schmidt, (12) is intuitively true.
  - But according to **descriptivism**, the speaker has said something contradictory and intuitively *false*—namely that the man who proved the incompleteness of arithmetic (i.e. Schmidt) did not prove the incompleteness of arithmetic.
  - So, again, it seems that **descriptivism** makes a clearly incorrect prediction.



## Names and Indefinite Descriptions

- Finally, Kripke also points out that the descriptive meaning that speakers sometimes associate with a name can *fail* to determine a specific individual.
- For example, some speakers might only know about Richard Feynman that he is a famous physicist. If so, for such speakers, the name ‘Feynman’ is associated with an **indefinite description**, namely ‘a famous physicist’.
- However, since there are many famous physicists, this description fails to determine a unique reference, and consequently **descriptivism** predicts that such speakers *fail* to refer when using the name ‘Feynman’.
- But this seems incorrect. A speaker *can* successfully refer using the name ‘Feynman’ even if all the speaker knows is that Feynman is a famous physicist.



## Outline

From Millianism to Descriptivism

From Descriptivism to Millianism

Direct Reference, Rigidity, and the Causal Theory of Reference

Direct Reference and Rigid Designation

The Causal Theory of Reference

Semantic Externalism

Problems



## Direct Reference and Rigid Designators

- Kripke's arguments show that names are **directly referential**. That is, a name has no descriptive meaning, but instead refers *directly* to its referent. The Millian thesis is thus correct after all.

**Millianism:** The meaning of a name is exhausted by its referent.

- From the assumption that names are **directly referential**, it follows that names are **rigid designators**, i.e. expressions that refer to the same individual in every possible world.
- By contrast, descriptions are **nonrigid designators**, i.e. expressions that may refer to different individuals at different possible worlds.





## Kripke's General Lesson

- The general lesson of Kripke's arguments is therefore that names should not be analyzed as descriptions *precisely because* the **intensions** of names and descriptions are different.





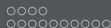


## Direct Reference and Rigid Designators (cont.)

- Kripke writes,

*What's the difference between asking whether it's necessary that [8] is greater than 7 or whether it's necessary that the number of planets is greater than 7. Why does one show anything more about essence than the other. The answer to this might be intuitively 'Well, look, the number of planets might have been different from what it in fact is. It doesn't make any sense, though, to say that [8] might have been different from what it in fact is'. Let's use some terms quasi-technically. Let's call something a rigid designator if in every possible world it designates the same object, a nonrigid or accidental designator if that's not the case. (Kripke 1980, 48)*





## Direct Reference and Rigid Designators (cont.)

- Kripke's point here is that '8' is the *name* for a number and, thus, a **rigid designator**. I.e. '8' refers to the same number in every possible world.
- However, the description 'the number of planets' is a **nonrigid designator**. This description refers to different numbers in different possible worlds (depending on the cosmological facts at these worlds).
- In fact, the description 'the number of planets' used to refer to the number 9, but since Pluto recently lost its status as a planet (technically, it is a *dwarf* planet now), the description refers to 8.





## Direct Reference and Rigid Designation (cont.)

- So, the **rigidity** of names explains why identity statements involving names are **necessarily** true (or false). For example, (13) is true.

(13) Necessarily, Aristotle is Aristotle.

(i.e. that Aristotle is identical to himself *could not* have been otherwise.)

- By contrast, identity statements involving names and descriptions are merely **contingently** true (or false). For example, (14) is false.

(14) Necessarily, Aristotle is the teacher of Alexander.

(i.e. that Aristotle is identical to the teacher of Alexander *could* have been otherwise.)

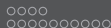




## The Metasemantics of Names

- If **Millianism** is correct, i.e. if names are directly referential and rigid designators, this raises a difficult **metasemantic** question, namely *in virtue of what* does a name refer to its referent?



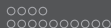


## Names and Baptisms

- Kripke proposes the following answer:

*A rough statement of the theory might be the following: An initial 'baptism' takes place. Here the object may be named by ostension, or the reference of the name may be fixed by a description. When the name is 'passed from link to link', the receiver of the name must, I think, intend when he learns it to use it with the same reference as the man from whom he heard it. If I hear the name 'Napoleon' and decide it would be a nice name for my pet aardvark, I do not satisfy this condition. (Kripke 1980, 96)*





## Names and Baptisms (cont.)

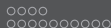
- Kripke's general idea seems to be the following:
  1. An object is given its name by an initial **baptism**.
  2. The object can be baptized either **ostensively** or **by description**.
  3. Following the initial baptism, the name **refers rigidly** to the object ostensively or descriptively baptized.
  4. The name then gets passed down from speaker to speaker.
  5. And speakers must intend to use the name as it is used by the speaker(s) from who the name is acquired.



## The Causal Theory of Reference and Externalism

- Since this analysis of reference assumes (a) that the baptism is the initial cause of the name's referent and (b) that this completely fixes reference, it is called the **causal theory of reference**.
- One consequence of the causal theory of reference is so-called **semantic externalism**—the view that the meaning of certain expressions is determined in whole, or in part, by factors that are *external* to the speaker.
- One particularly famous argument for **semantic externalism** is the Twin Earth thought experiment due to Hilary Putnam.





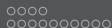
## Digression: Natural Kind Terms

- Putnam writes,

*[...] suppose somewhere in the galaxy there is a planet we shall call Twin Earth. Twin Earth is very much like Earth; in fact people on Twin Earth even speak English. [...] One of the peculiarities of Twin Earth is that the liquid called 'water' is not H<sub>2</sub>O but a different liquid whose chemical formula is very long and complicated. I shall abbreviate this chemical formula simply as XYZ. [...] XYZ is indistinguishable from water [...] it tastes like water and it quenches thirst like water. [...] the oceans and lakes and seas of Twin Earth contain XYZ. (Putnam 1975, 223)*



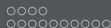




## Digression: Natural Kind Terms (cont.)

- Suppose that ...
  - a. There are two speakers, Oscar and Twin-Oscar.
  - b. Suppose further that Oscar and Twin-Oscar are exact duplicates in appearances, feelings, thoughts, interior monologue, etc. — Oscar has no belief about water that Twin-Oscar does not also have etc.
  - c. And finally suppose that Oscar and Twin-Oscar both now assert the sentence “water is tasty”.





## Digression: Natural Kind Terms (cont.)

- Despite being exact physical duplicates (i.e. sharing the exact same mental states), Oscar and Twin-Oscar have intuitively said different things.
  - Oscar has said that H<sub>2</sub>O is tasty.
  - Twin-Oscar has said that XYZ is tasty.
- This shows that the meaning of the term 'water' is determined by factors that are *external* to Oscar and Twin-Oscar. As Putnam puts it:

*Cut the pie any way you like, 'meanings' just ain't in the head.*  
*(Putnam 1975, 227)*

- In conclusion, there are independent reasons to think that **semantic externalism** is plausible.



## Outline

From Millianism to Descriptivism

From Descriptivism to Millianism

Direct Reference, Rigidity, and the Causal Theory of Reference

## Problems

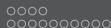
The Madagascar Problem

Frege's Puzzle (again)

Predicative Names

Conclusion

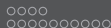




## Problem I: Evans on 'Madagascar'

- One problem with the **causal theory of reference** is that it is unclear how to deal with cases where the reference of name *shifts*.
- This is illustrated by Gareth Evans' (real) case involving the name 'Madagascar':
  1. 'Madagascar' was originally used to refer to a portion of the African mainland, namely Somalia.
  2. So, let's suppose that an original *baptism* took place where the name 'Madagascar' was introduced to refer to Somalia.
  3. However, the name was misunderstood by Marco Polo who thought the name referred to the island off the east coast of Africa.
  4. The misunderstanding became widespread and slowly the name changed its reference—it now refers to the island off the east coast of Africa.

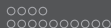




## Problem II: Frege's Puzzle

- Kripke's arguments showed that the Millian view about names was right after all, but what should one then say about Frege's puzzle?
  - (1) Bob Dylan is Bob Dylan.
  - (2) Bob Dylan is Robert Zimmerman.
- In general, Millians today maintain that (1) and (2) are both necessarily true.
- Whatever the difference in **cognitive value** or **the thought expressed** is between (1) and (2) — this is not a difference in meaning (i.e. **extension** or **intension**).
- Moreover, Kripke provides several arguments for the claim that some **necessary truths** can only be discovered through empirical investigation (which I won't cover here).
- So, while it's true that (1) is knowable **a priori** and that (2) is not, this does not entail that (2) expresses a **contingent** truth. Despite being knowable only **a posteriori**, (2) is *also* necessarily true.





## Problem II: Frege's Puzzle (cont.)

- This does, however, not suffice to solve Frege's original puzzle.
- For example, it remains unclear how to explain that belief reports with co-referential names can nevertheless differ in truth value.
  - (15) Frank believes that Bob Dylan was born in Minnesota.
  - (16) Frank believes that Robert Zimmerman was born in Minnesota.
- According to Millianism, the names in (15) and (16) are **intensionally equivalent**. So, this makes it mysterious why the names cannot be substituted without affecting the truth value.





## Problem III: Predicative Names

- So far, the discussion has focused entirely on a specific *use* of names, in particular names in argument position.
- However, here are different uses of names, e.g. the uses in (17)–(21) below.
  - (17) Every Boris I have ever met was bald.
  - (18) Most Linas are Swedish.
  - (19) There are at least two Rebeccas in this lecture hall.
  - (20) Donalds are having their reputations tarnished.
- These uses look problematic for Millianism, because names in (17)–(21) are intuitively neither **directly referential** nor **rigid**.
- Rather, the names in these sentences look more like predicates. For example, the meaning of ‘Boris’ in (17) appears to just the predicate meaning ‘is called Boris’.





## Conclusion

- Despite the problems for **Millianism** mentioned above, this is overwhelmingly the orthodox view in philosophy of language today.
- However, there are literally thousands of research papers on the meanings of names and descriptions and even today the debate rages on.

