

Philosophical Logic

LECTURE TWO | MICHAELMAS 2017

Dr Maarten Steenhagen
ms2416@cam.ac.uk

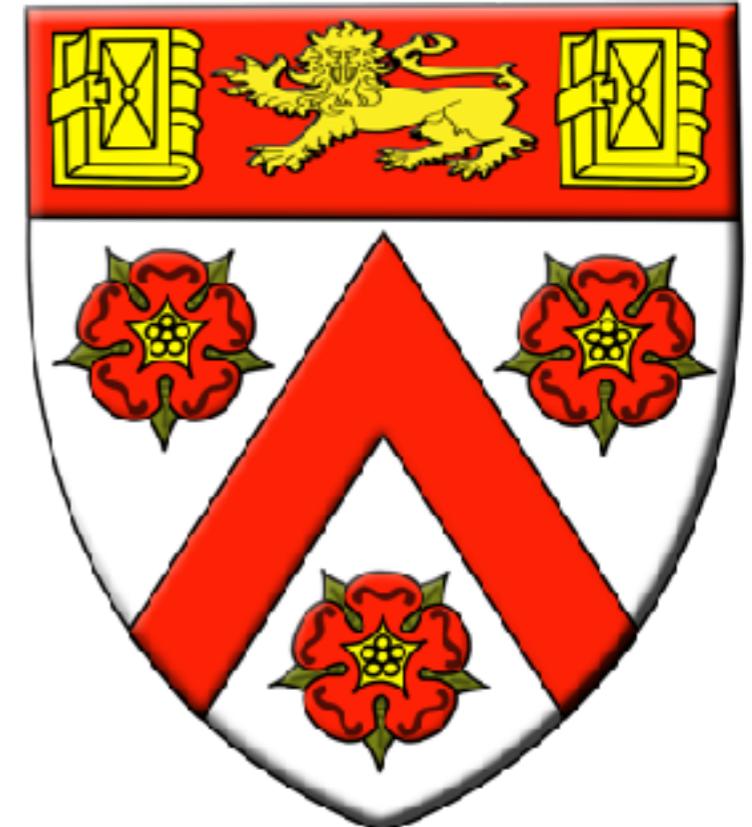


Last Week

- Lecture 1: **Necessity, Analyticity, and the A Priori**
- Lecture 2: **Reference, Description, and Rigid Designation**
- Lecture 3: **What Could ‘Meaning’ Mean?**
- Lecture 4: **Natural Language**
- Lecture 5: **Formal Translations**
- Lecture 6: **Conditionals**
- Lecture 7: **Deeper into ‘the’**
- Lecture 8: **Quantification and Existence**

Last Week

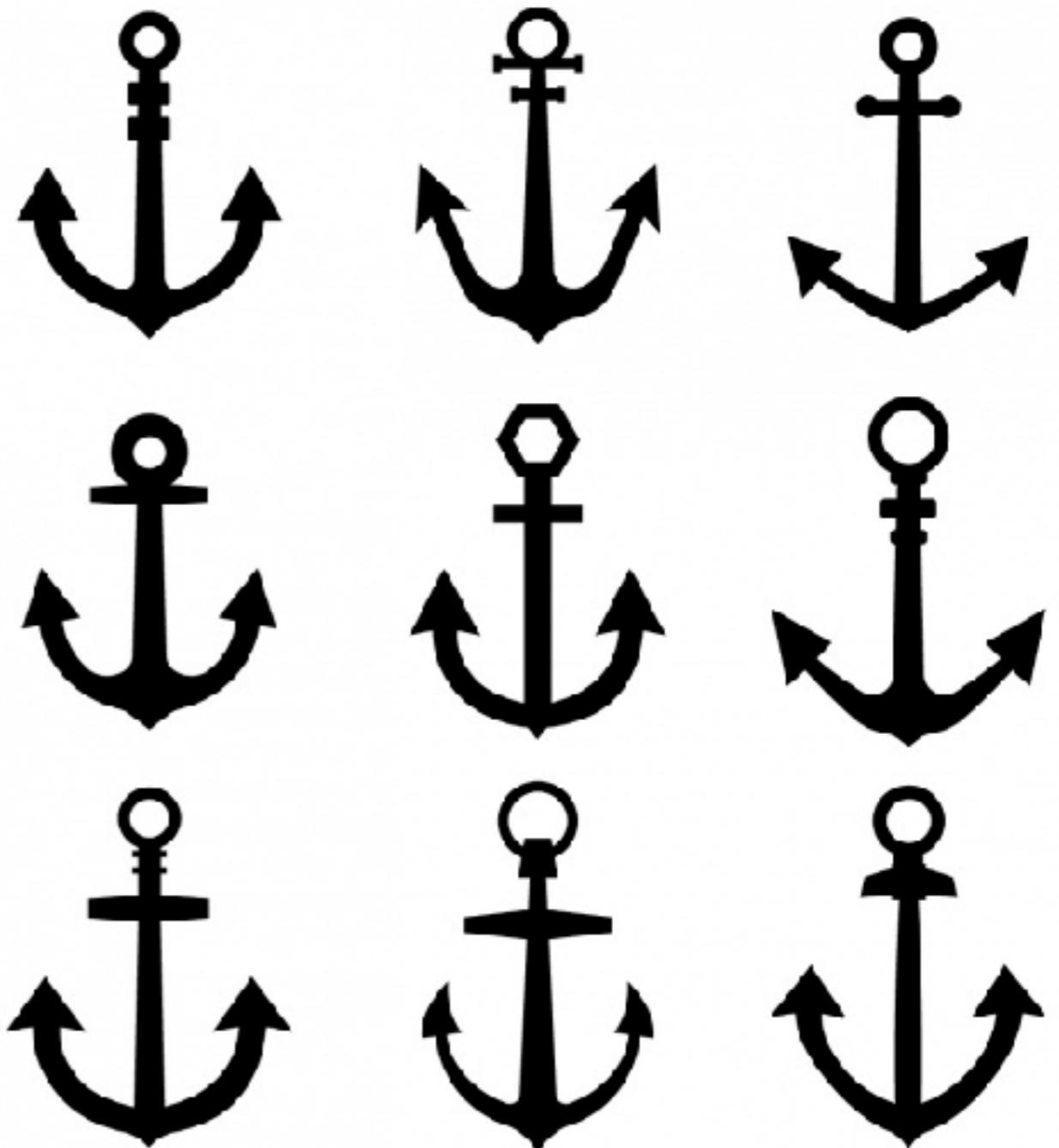
- *De re* necessity and *de dicto* necessity
- What is it for a statement to be necessarily true?:
true in all *possible worlds*
- Allows us to define:
 - Necessary truths
 - Contingent truths
 - Possible truths
- What makes a statement necessarily true?
Suggestion: Analytic truth (as opposed to synthetic)
- This makes necessary truths knowable ‘from the armchair’: a priori truths (as opposed to a posteriori)
- ‘Package deal’: Necessity | Analyticity | A priori



Necessity, contingency, and possibility

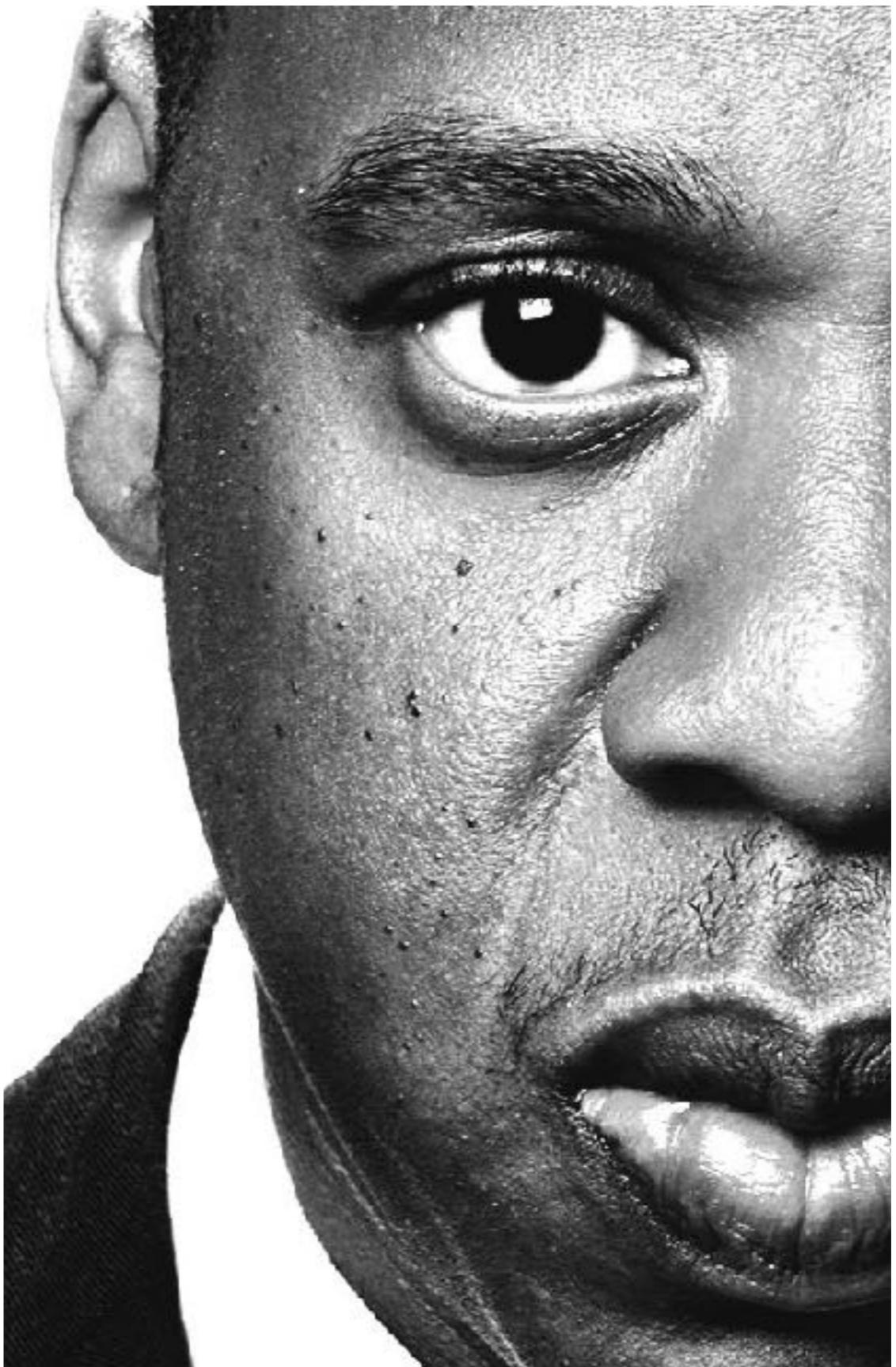
True...	...in all possible worlds	...in some possible worlds	...in the actual world
Necessary	YES	YES	YES
Contingent	NO	YES	YES
Possible	YES/NO	YES	YES/NO

Reference, Description, and Rigid Designation



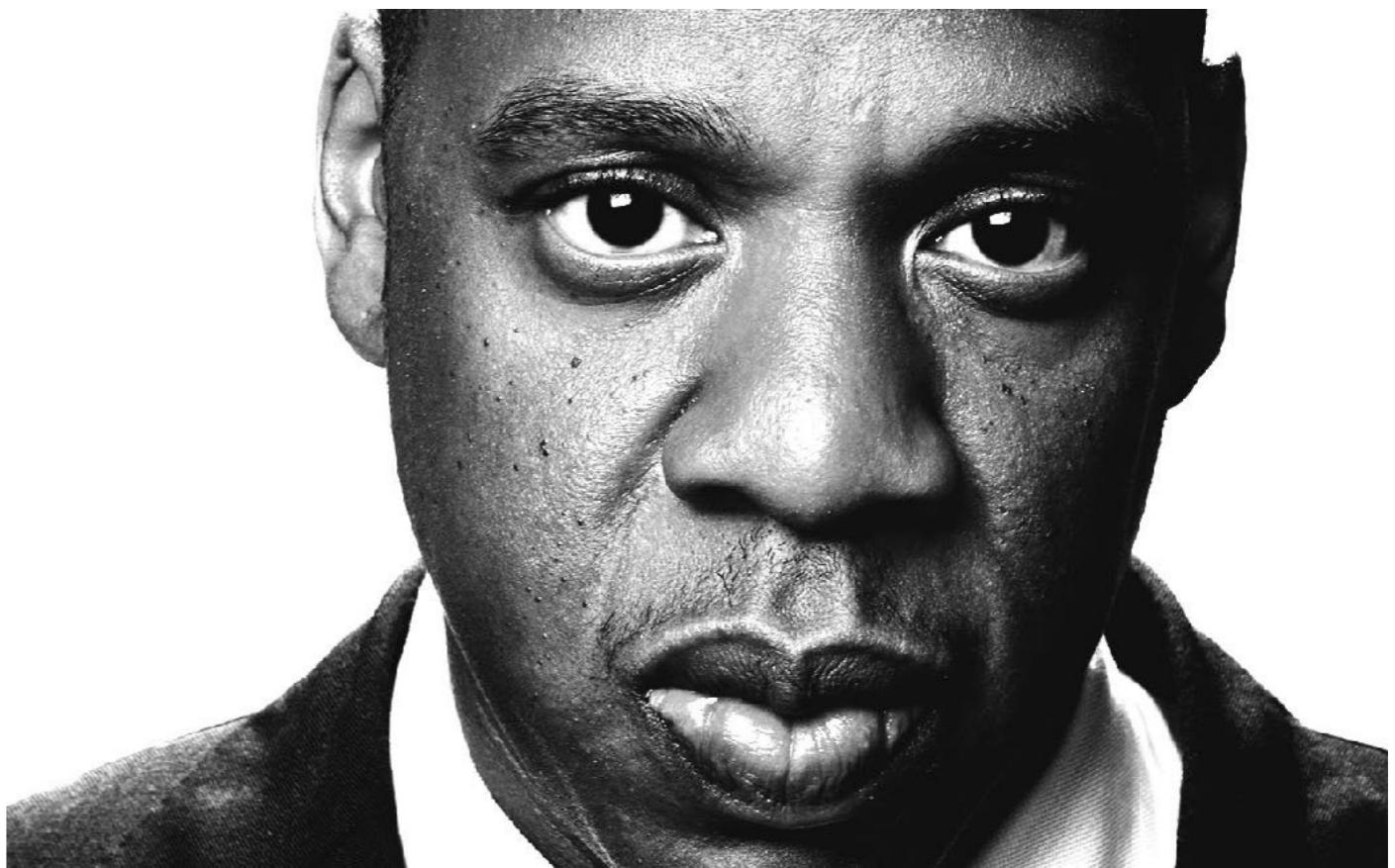
A puzzle about identity

‘JAY-Z is Shawn Carter’



Identity and Predication

- JAY-Z is Shawn Carter
- JAY-Z is rich
- ‘is’: identity or predication
- Basic identity statements are those where two names are conjoined by ‘is’ (which then has to be used as the ‘is’ of identity)



Are identity statements, when they are true, necessarily true?

Argument for this claim:

- When you make a true identity statement, you pick out the same thing twice, and say that it is the same thing as itself
- But nothing can fail to meet that condition. Everything is identical to itself!
- So an identity statement, when true, is true necessarily

Are identity statements, when they are true, necessarily true?

Argument **against** the claim:

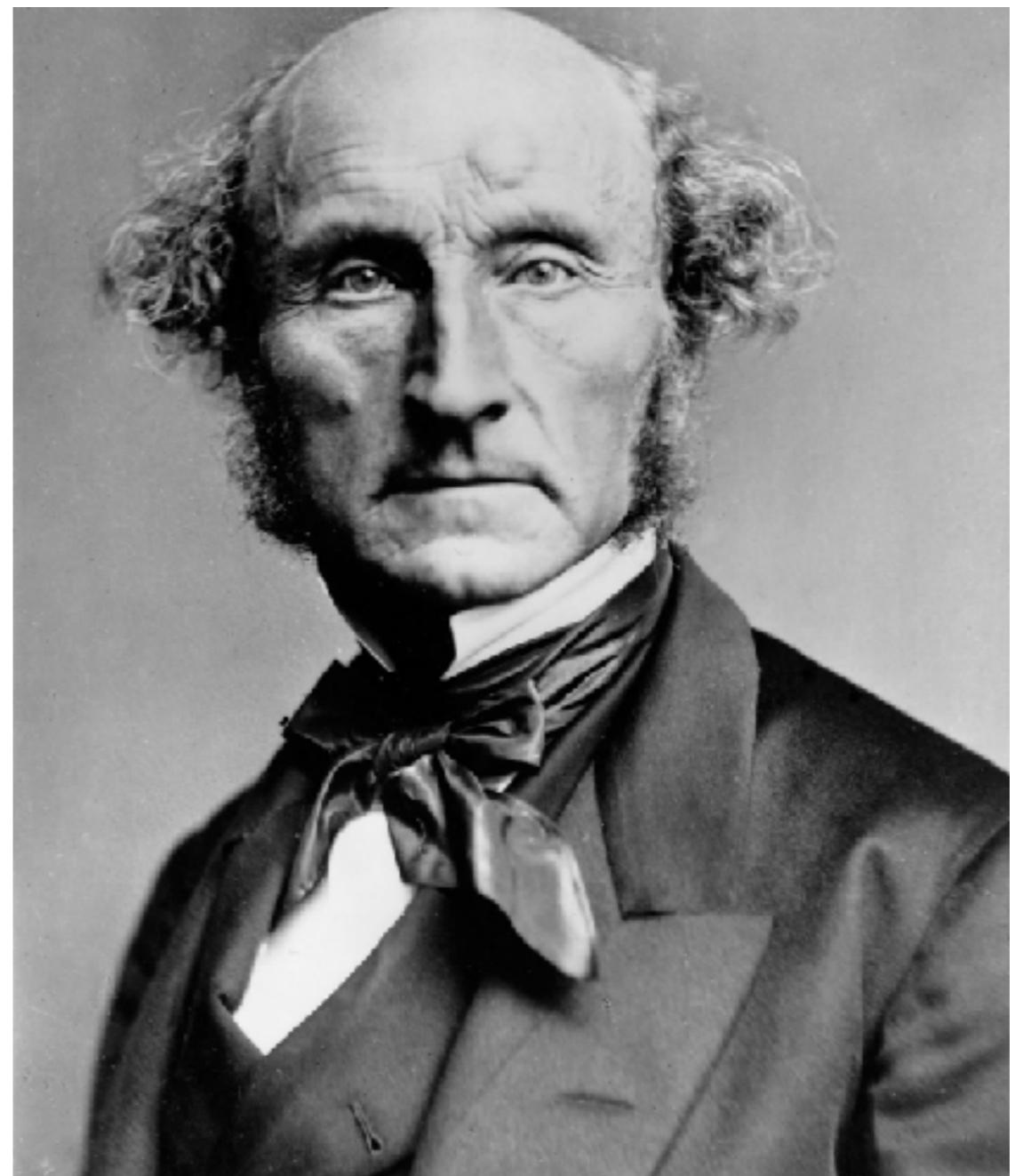
- S: 'JAY-Z is Shawn Carter' [True]
- JAY-Z is the second-richest hip hop artist in the U.S.
- S*: 'The second-richest hip hop artist in the U.S is Shawn Carter' [True, but only contingently]
- S and S* are semantically equivalent (i.e. both say of JAY-Z that he is Shawn Carter)
- So S is true only contingently

Names



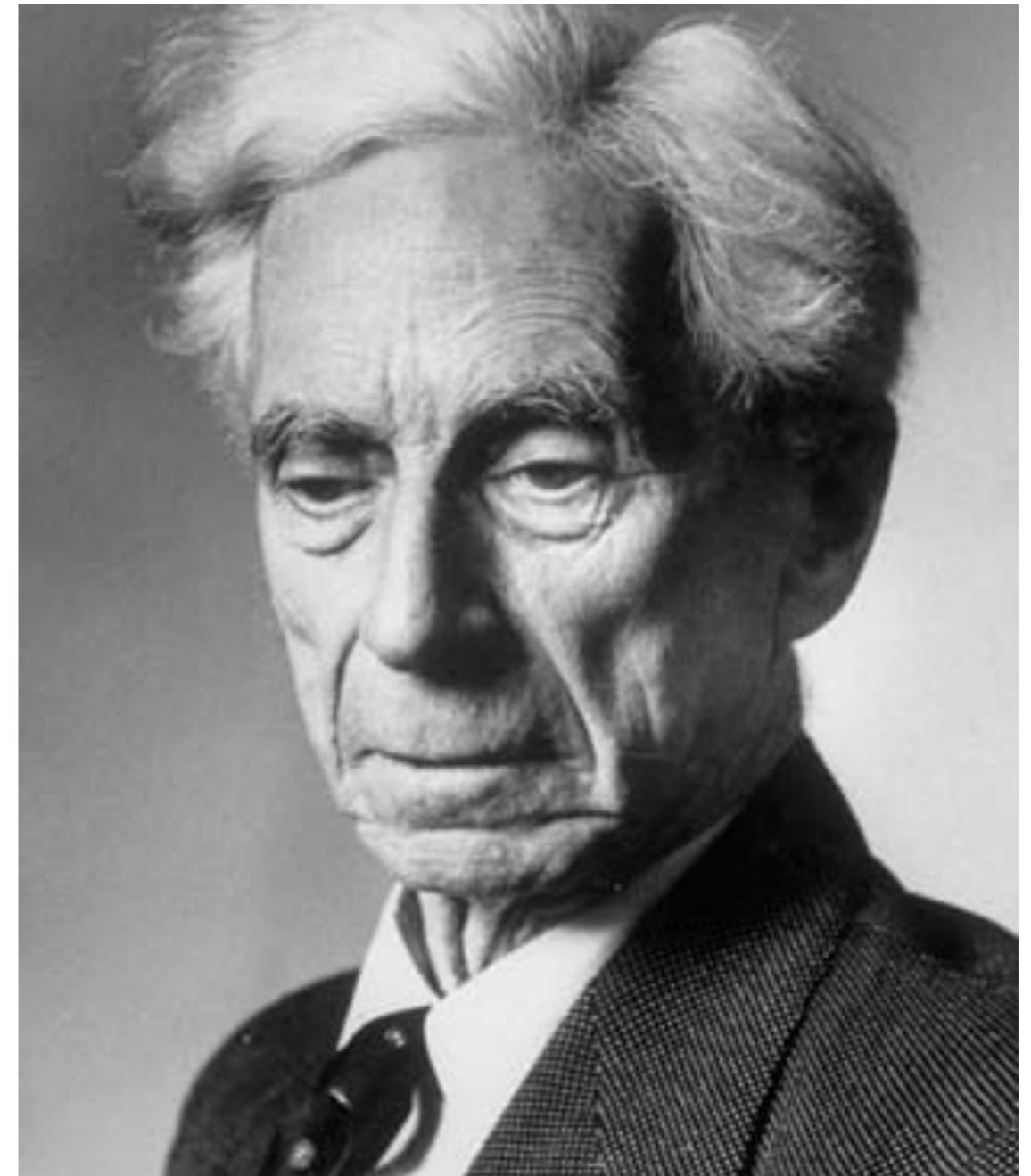
Millianism

- Common-sense view: the semantic contribution of a name is its referent (and only its referent)
- ('semantic contribution' = contribution to the meaning of the statement in which the name is used)
- More complex names ('the teacher of Aristotle') may have additional baggage (connotation); not semantically relevant
- John Stuart Mill (1806–73), hence 'Millian' theory of names
- All identity statements seem either necessary or meaningless (when names are 'empty')



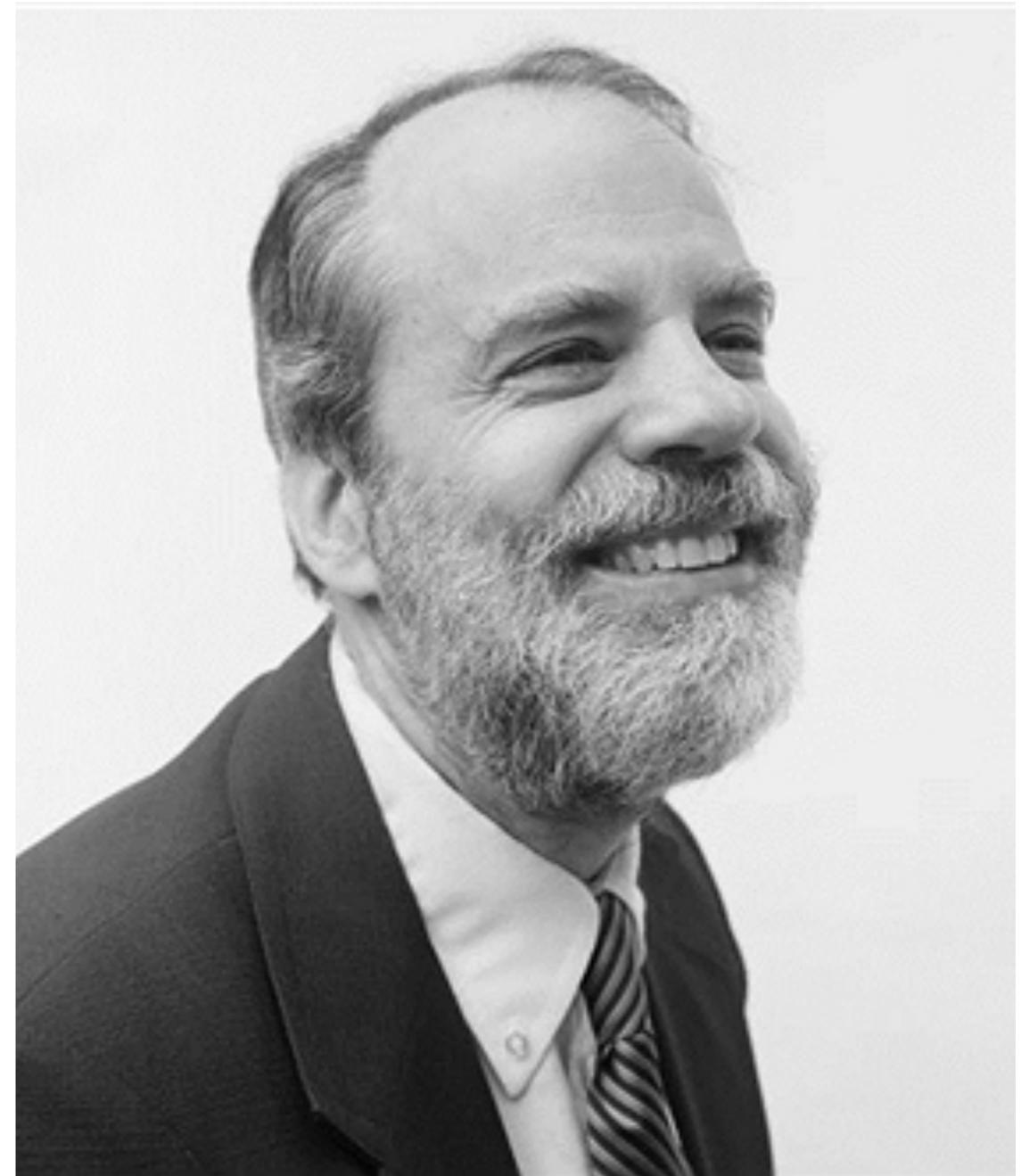
Descriptivism

- Each name makes a semantic contribution that is equivalent to the semantic contribution of some descriptive phrase ('the F')
- In other words, for a name like 'Plato' we there is some description (e.g. 'the teacher of Aristotle') that makes its semantic contribution more explicit
- Bertrand Russell (1872-1970)
- All identity statements seem contingent (except for trivial ones, 'a is a')



Comparison

- Mill and Russell agree: all names (simple and complex) contribute to semantics in the same way
- They disagree about what this contribution is: Mill thinks it's simple 'tagging'; Russell thinks its just descriptive identification
- Saul Kripke: Not all names make the same semantic contribution. Some names are *rigid designators*



Rigid Designation

A name is a rigid designator if and only if it refers to the same object in all possible worlds

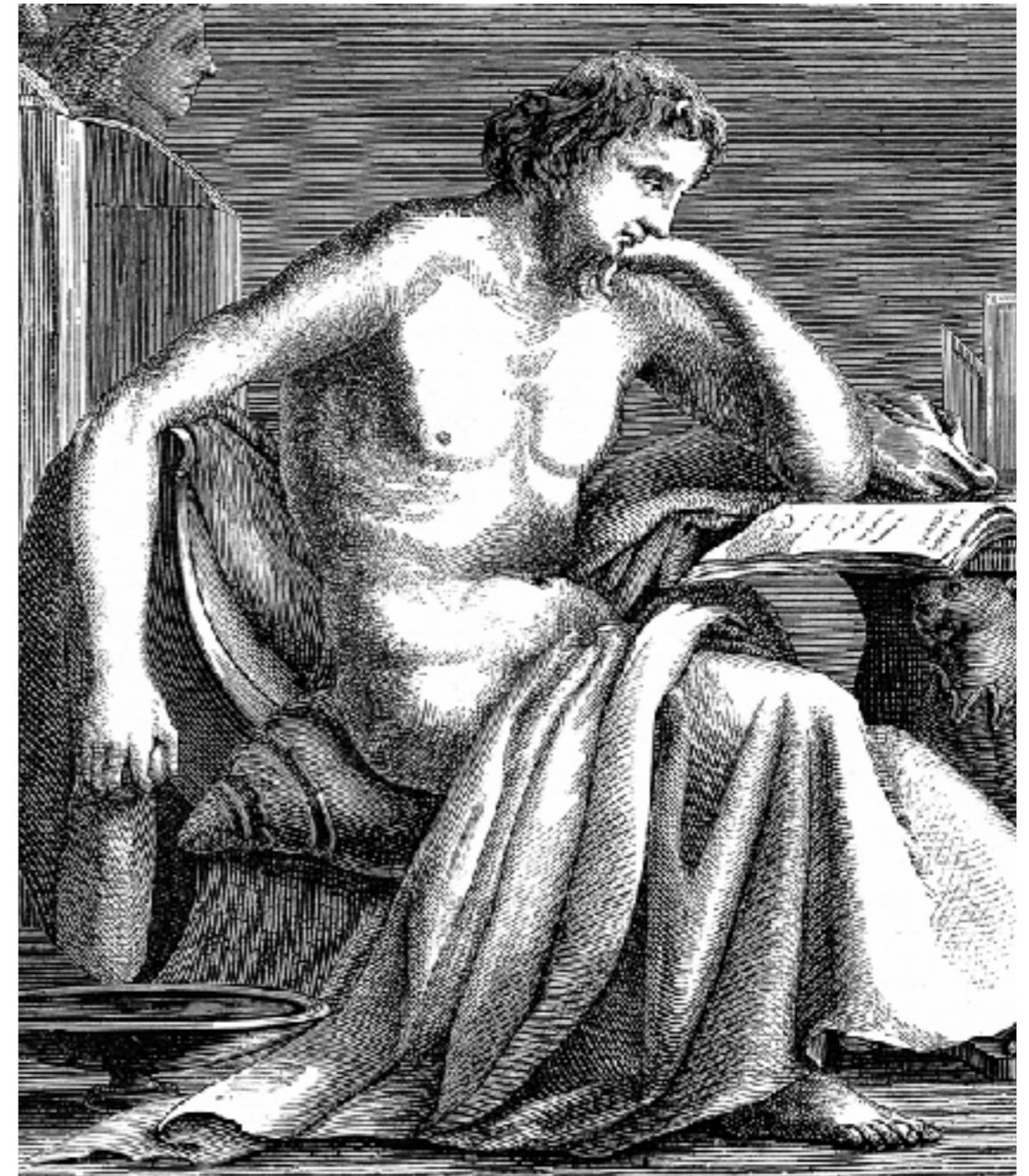
Kripke: 'Plato' refers to Plato in all possible worlds

But, 'the teacher of Aristotle' does not refer to Plato in all possible worlds



Problem?

- What if Aristotle was self-taught and Plato never existed? (This seems a possible scenario)
- It is clear that ‘the teacher of Aristotle’ would not pick out anyone in that situation.
- But would ‘Plato’ still refer to Plato?
- Not obviously: it seems that reference requires existence
- So does this mean ‘Plato’ is not a rigid designator?



Weak and Strong Rigidity

- **Strong Rigidity:** A referring expression is a *strongly* rigid designator if and only if it refers to the same object in all possible worlds
- **Weak Rigidity:** A referring expression is a *weakly* rigid designator if and only if it refers to the same object in all possible worlds in which that object exists
- ‘Plato’ is weakly rigid, because it refers to the same object in all worlds in which Plato exists



Necessary a posteriori truths

Can we prove that
identity statements with
rigid designators are
necessarily true?



Proof for necessity

1. ‘JAY-Z is Shawn Carter’ is merely contingently true (Assumption, for *reductio*)
2. If ‘JAY-Z is Shawn Carter’ is contingently true, then ‘JAY-Z’ and ‘Shawn Carter’ must refer to the same thing in the actual world
3. Both 'JAY-Z' and 'Shawn Carter' are rigid designators
4. If a statement *s* is contingently true, then there is some world *w* in which *s* is false
5. If ‘JAY-Z is Shawn Carter’ is false, then ‘JAY-Z’ and ‘Shawn Carter’ refer to different things
6. So there is some world in which ‘JAY-Z’ and ‘Shawn Carter’ refer to different things
7. But then either ‘JAY-Z’ or ‘Shawn Carter’ (or both) do not refer to the same thing in every possible world
8. Not both 'JAY-Z' and 'Shawn Carter' are rigid designators
9. Contradiction

“JAY-Z is Shawn Carter”

Necessary and A Posteriori truth

Science and identity

How do we recognise a rigid designator?



Simple names

- Suggestion: Rigid designators are just the simple (proper) names
- This is not correct: ‘the sum of 1 and 2’ is a complex name for the number three. But it is a rigid designator.
- (Moreover, if the number three exists in all possible worlds it is strongly rigid.)



Scientific terms

- Kripke thinks that many kind terms used by the sciences are rigid designators (e.g. ‘Water’, ‘the Higgs boson’ or ‘H₂O’)
- At an early stage of scientific enquiry, people might not know exactly what water is, but they can still talk about it in their investigations. It's as if they say *that stuff*, ‘water’, pointing to some water.
- We use an expression as rigid if we use it as some kind of deferred demonstrative

‘Water = H₂O’

- If ‘water’ and ‘H₂O’ are both rigid designators (which they seem to be) then we have discovered the truth of ‘Water is H₂O’
- ‘Water is H₂O’:
 - Necessary
 - Synthetic
 - A posteriori



**What explains
the necessity
of identity
statements?**



Self-identity

- Don't forget, some identity statements are necessary truths just because of their logical form ('Shawn Carter is Shawn Carter').
- But if an a posteriori, synthetic identity statement is necessarily true, it is true because the names involved refer rigidly, and so pick out the same object in every possible world
- So there is something about that object that ultimately accounts for the necessity. And this is the simple fact that in every possible world everything is self-identical.
- (Distinguish between the necessity of *identity*, which is universal, and the necessity of *identity statements*, which is not universal.)

Rigid Designation

A name is a rigid designator if and only if it refers to the same object in all possible worlds (where that object exists)



Extra: Kant's synthetic *a priori*

- M: ' $7 + 5 = 12$ '
- M is a necessary truth
- Immanuel Kant (1724-1804): "no matter how long I analyze my concept of such a possible sum [of seven and five] I will still not find twelve in it" (*Critique of Pure Reason*, B-Introduction)
- If Kant is right, the number twelve is not somehow part of the meaning of '7' '+' or '5'. M is not made true by logical form, nor by meaning. Hence, if M is true, it is not analytically true, but a synthetic truth
- Many people disagree (see e.g. Ayer's discussion in *Language, Truth and Logic*)



Next week

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Quiz!

Which of the following combinations are coherent options?



Quiz

Which of these are coherent options? Can you give examples?

- Analytic: Necessary: A posteriori
- Analytic: Necessary: A priori
- Analytic: Contingent: A posteriori
- Analytic: Contingent: A priori
- Synthetic: Necessary: A posteriori
- Synthetic: Necessary: A priori
- Synthetic: Contingent: A posteriori
- Synthetic: Contingent: A priori