

# No Metaphysical Disagreement Without Logical Incompatibility

**Daniel Durante**

Federal University of Rio Grande do Norte  
Natal-RN – Brazil

# Introduction

## No Metaphysical Disagreement Without Logical Incompatibility

I intend to support the logical incompatibility of conflicting views as a criterion for identifying a disagreement as genuinely metaphysical.

- A disagreement will only be metaphysical if the acceptance of the theses that each side defends requires reasoning according to incompatible logics.

Suppose a debate is contrasting theses **A** and **B**.

**A** vs **B** constitutes a genuine metaphysical disagreement only if:

Accepting <b>A</b>	forces one to reason according to a logic (or a set of logics) <b>A'</b> .
Accepting <b>B</b>	forces one to reason according to a logic (or set of logics) <b>B'</b> .
<b>A'</b> and <b>B'</b> are incompatible	there is at least one sentence <i>S</i> , which is valid in <b>A'</b> ( <b>B'</b> ) but not in <b>B'</b> ( <b>A'</b> )

# Metametaphysical Motivations

- **What do we get from this criterion?**
  - Let us make the assumption that I am right and the criterion is good.

## Defense against deflationism

- If different metaphysical proposals demand different logics, then the metaphysical disagreements spread (through logic) out of their theoretical limits, generating other disagreements in all other matters upon which we reason.
- Metaphysical disagreements would not be inert or merely verbal, but relevant and substantial.

# Metametaphysical Motivations

- **What do we get from this criterion?**
  - Let us make the assumption that I am right and the criterion is good.

## **Defense against deflationism**

## **Shield against verbal disputes**

- If a specific disagreement does not produce other divergences outside its theoretical limits, then we know it does not involve logical incompatibility.
- And, according to our criterion, it will not be a genuinely metaphysical disagreement.
- The criterion of logical incompatibility not only protects metaphysics from deflationist attacks but also shields it from irrelevant proposals and merely verbal controversies.

# Metaphysics and Ontology

- If we get a lot, we pay a lot!
- It is a **demarcation criterion** that charges its price in the choices it demands.

## **Metaphysics (a textbook definition):**

deals with questions whose answers involve a characterization of the most general structure of reality.

## **Ontology:**

**(Quine)** ⇒ answers the question about what things exist.

**(Other proposals)** ⇒ what is real, what is fundamental, what grounds what, ...

# Criterion of Ontological Commitment

- Quine formulated a precise criterion to identify what are the ontological commitments of any theory  $T$ .

The ontological commitments of a theory  $T$  are:

- the entities that if they did not exist, some of the sentences of  $T$  would be false;
- revealed in the existential sentences of  $T$ .

$T$  is ontologically committed with entities of type  $P$  if and only if  $T \models \exists xP(x)$ .

- However, existential quantifiers and variables are not adequately identified in natural language.
- Before looking for the ontological commitments of a theory  $T$ , it's necessary to regiment it into the formal language of logic.

# Quine's Naturalistic Metaontology

- 1) Regiment the **best scientific theories** into a formal canonical notation.
- 2) Use the criterion just defined to list all the ontological commitments of these regimented theories. (given by existential sentences)
- 3) Include in the ontology only those entities corresponding to these ontological commitments and nothing else.
- 4) Given two regimented versions of the same theory, we should prefer the one that assumes fewer ontological commitments (Occam's razor). An ontological debate about the existence of a specific kind of entity is a debate about its **indispensability**.

# Agreements needed for an ontological debate

- In order for an ontological debate to be conducted along these lines, there must be some important agreements among the participants.
- They have to agree on:

a) What are our best scientific theories?

b) What is the formal language in which regimentations of these theories are to be made?

c) What is the logic that regulates inferences in these theories?

# Quine's prescriptions for these agreements

a) What are our best scientific theories?

Scientists, not philosophers, decide what our best scientific theories are. Quine's ontology is **naturalistic**.

b) What is the formal language in which regimentations of these theories are to be made?

It's the language of first-order classical logic, with identity and without individual constants (**canonical notation**).

c) What is the logic that regulates inferences in these theories?

It's the **first-order classical logic**, eventually complemented by first-order set theory (NF).

# Beyond Ontology

## QUESTION:

Are the numbers mental constructs or they are independent of our thinking?

**Quine's Interpretation**  
(ontological question)

Do the numbers exist or not?  
Are they in or out of what there is?

**Dummett's Interpretation**  
(metaphysical question)

Does the mind have a role in the constitution of numbers?

# Quine's Interpretation

Are the numbers mental constructs or they are independent of our thinking?

**Quine's Interpretation**

Do the numbers exist or not?

- If numbers are mental constructs, if they are constituted by thought, then they are not part of reality, and do not exist.
- Quine's interpretation commits with the following thesis:

**Realist thesis**

the mind is separated from mathematical reality.

- If the mind is separate from mathematical reality, what is only in the mind does not exist in reality.
- So interpreted, the question is treatable by the method of ontological commitment:

# Quine's Interpretation

Are the numbers mental constructs or they are independent of our thinking?

**Quine's Interpretation**

Do the numbers exist or not?

**Realist thesis**

the mind is separated from mathematical reality.

- Numbers exist or not, depending on whether or not our best scientific theories assume **ontological commitments** to them.
  - **If they do**, numbers exist (out of our mind) as much as atoms, stars, and sunflowers.
  - **If they don't**, numbers do not exist (out of our mind) as much as phlogiston, unicorns, and Santa Claus.
- Quine's interpretation regards the question of the relation of mathematical entities to our thinking as an **ontological question**.

# Dummett's Interpretation

Are the numbers mental constructs or they are independent of our thinking?

**Dummett's Interpr.**

Does the mind have a role in the constitution of numbers?

- Dummett's interpretation calls into question the realist thesis and considers at least conceivable that to be constituted by the mind can be among the admissible features of reality.
- It admits at least the conceivability that the mind could sustain the existence of some real things.
- So, it is not the existence or not of the numbers that is **at stake** in Dummett's interpretation, but the very **realist thesis**.
- The two possible answers to a disagreement here are:

# Dummett's Interpretation

Are the numbers mental constructs or they are independent of our thinking?

**Dummett's Interpret:** Does the mind have a role in the constitution of numbers?

**Realist answer  
(Platonism)**

The mind is separated from mathematical reality

Numbers, if they exist, they do so independently of our thinking

**Idealist answer  
(construtivism)**

The mind is not separated from mathematical reality

Numbers, if they exist, they are made up from our mental activity

- Dummett's interpretation **is not** treatable trough the Quinean methodology.
  - Assuming or avoiding ontological commitments to numbers will not bind us to either side of this debate.
  - Both sides can accept that numbers exist and still disagree on whether the mind has any role in their existence.
- Dummett's interpretation regards the question of the relation of mathematical entities to our thinking as a **metaphysical question**.

# Ontology vs Metaphysics

- **ONTOLOGY (Quine):** what is there?
- **METAPHYSICS (textbook definition):** what are the characteristics of the most general structure of reality?
- I am, therefore, **contrasting** ontology to metaphysics.
  - Reality is entirely filled by the things that exist.
    - And it is ontology that will tell us what things fill up reality.
  - But reality has a structure and characterizing it is the task of metaphysics.
    - Quine's method of ontological commitment does not help us in this task.

# The most general structure of reality?

How "the most general structure of reality" can be characterized?

1) Explaining what it means to exist.

2) Describing how existence occurs.

3) Defining what is obligatory (or necessary), allowed (or possible) and prohibited (or impossible) to all existing things.

- I know what it means to exist (1) when I know how existence occurs (2).
- And I know how existence occurs (2) when I know what is necessary, possible and impossible to all things that exist (3).

# The Crucial Question

## Metaphysical Commitment

- We have the method of ontological commitment to address ontological questions. Would there be an analogous method to approach metaphysical questions?
- Would there be any pattern or indicator that would, in the case of metaphysical questions, play the same role as ontological commitments play in the case of ontological debates?
- Would there be anything we could call a **metaphysical commitment**?

# The Crucial Answer

## Metaphysical Commitment = Logic

<b>Question</b>	Is there anything we can call a <b>metaphysical commitment</b> ?
<b>Answer</b>	There is. It's <b>logic</b> .

- Just as the existential sentences of formal regimentations of theories express their ontological commitments, the **logic** according to which we make inferences in these theories expresses our **metaphysical commitments**.
- If existence is what the existential quantifier expresses, then the logical principles, in regulating the behavior of quantifiers (and other connectives), constitute metaphysical principles that characterize the most general structure of reality.

# The Crucial Answer

## Metaphysical Commitment = Logic

<b>Question</b>	Is there anything we can call a <b>metaphysical commitment</b> ?
<b>Answer</b>	There is. It's <b>logic</b> .

- The Logical principles characterize the most general structure of reality because:
  - they establish what is obligatory (or necessary), permitted (or possible) and prohibited (or impossible) to the existing things.
  - In doing so, they define how existence occurs,
  - and give us a meaning for existence.

# Quine's metaphysics

- Quine would agree with our definition of metaphysical commitment

In "Existence and Quantification", reflecting on the differences between classical and intuitionistic logic, Quine, somewhat reluctantly, admits:

*Classical quantification theory enjoys an extraordinary combination of depth and simplicity, beauty and utility. It is bright within and bold in its boundaries. Deviations from it are likely, in contrast, to look rather arbitrary. But insofar as they exist it seems clearest and simplest to say that deviant concepts of existence exist along with them. (112-113)*

*The intuitionist has a different doctrine of being from mine, as he has a different quantification theory; and that I am simply at odds with the intuitionist on the one as on the other. (108)*

# Quine's metaphysics

- Despite this recognition, the only metaphysics that Quine accepted could be summed up nicely in his two famous slogans:

<i>To be is to be the value of a variable.</i>	→ (criterion of ontological commitments)
<i>No entity without identity.</i>	→ (standard of ontological admissibility)

- Together, they mean that the quantificational theorems of first-order classical logic with identity provide us with a doctrine of being that characterizes the general structure of reality.
- The methodology that the slogans represent seems perfectly acceptable. What is questionable in Quine's metaphysics is its restriction to first-order classical logic and its radical naturalism.

# Quine's metaphysics

- The price for challenging this metaphysical position is to defy first-order classical logic.
  - Very few people were willing to pay this price, which seemed too high in the mid twentieth century.
  - Hence Quine not even considered metaphysical questions. He treated them all as ontological questions that should be solved within the framework of his doctrine of being.
  - But this price has dropped gradually over the years.
  - Logic has deviated from classical orthodoxy by several paths that provide us today with many viable non-classical alternatives to challenge the Quinean doctrine of being.
  - Let's see an example.

# Being different → Inferring different

<b>QUESTION</b>	Do material objects are constituted by our sensory experiences, or they exist independently of them?
<b>Quine's Interpretation</b> (ontological question)	Do material objects exist or not? (treatable by the method of ontological commitment)
<b>Dummett's Interpret.</b> (metaphysical question)	Do sensory experiences play a constitutive role in material reality?
<b>Realist answer</b> (realism)	Reality <u>is</u> separated from sensory experiences.
	Material objects, if they exist, they do so independently of our sensory experiences.
<b>Idealist answer</b> (phenomenalism)	Reality <u>is not</u> separated from sensory experiences.
	Material objects, if they exist, they are constituted by our sensory experiences.
<b>Intractable by Quine's method:</b> both sides can assume ontological commitments to material objects and still diverge on the role of sensory experiences in the constitution of these objects.	

# Applying the criterion of logical incompatibility

- If Dummett's interpretation of the realism vs phenomenalism debate is a genuine metaphysical question, then, according to our criterion, both realists and phenomenalists reason according to different and incompatible logics.
- Dummett has identified that what binds all realist approaches on the one hand and all approaches contrary to realism on the other is a **disagreement in the concept of truth**.
- A fundamental characteristic of truth, compatible with various distinct semantic and metaphysical conceptions, is that:
  - What we take as true must be an expression of reality.

# Applying the criterion of logical incompatibility

**Realism (realism, Platonism) → Truth Transcends Verifiability.**

- If truth is an expression of reality and reality is separated from the mind or sensory experiences (realist theses), then so is the truth.
- Then the truth is independent of our mind or sensation.
- Any declarative sentence  $P$  will always be true or false, regardless of our mental or sensory capacity to verify its truth or falsehood.
- If any  $P$  is always true or false, then the excluded middle ( $P \vee \neg P$ ) will then always be true. It will be a theorem.
- Whatever the logic that expresses all the metaphysical commitments of realism, **the excluded middle will be a theorem** of this logic

# Applying the criterion of logical incompatibility

**Idealism (phenomenalism, constructivism) → Truth Depends on Verifiability.**

- If truth is an expression of reality, and reality is not separated from the mind or sensory experiences (idealistic theses), then the truth is not so also.
- Then truth, as much as reality, depends on our mind or sensation.
- A declarative sentence  $P$  will only be true or false through evidence that enables us to gauge mentally or sensibly its truth or falsity.
- So a sentence  $Q$  for which no evidence enables us to verify or falsify it, is neither true nor false.
  - "The universe is infinite."
  - "Every even number greater than 2 equals the sum of two prime numbers."
- If there is no evidence for the verification of  $Q$ , there is also no evidence for the verification of  $\neg Q$ , which also is neither true nor false.

# Applying the criterion of logical incompatibility

**Idealism (phenomenalism, constructivism) → Truth Depends on Verifiability.**

- If  $Q$  and  $\neg Q$  are neither true nor false, the same holds for  $(Q \vee \neg Q)$ .
- In particular  $(Q \vee \neg Q)$  is not true and the excluded middle is not valid. It is not a theorem.
- Then, whatever logic expresses all the metaphysical commitments of idealism, **the excluded middle will not be a theorem** of this logic.

Realism and idealism are therefore logically incompatible, and the divergence between these two positions is, according to our criterion, genuinely metaphysical.

# What does this application inform us?

- We must resist the temptation to identify the logic of realism with classical logic, and the logic of idealism with intuitionistic logic.
- Both, classical and intuitionistic logic give us, each of them, a complete characterization of the structure of reality.
- But in our presentation of the controversy *realism vs idealism* we have focused only on its crucial aspect. All other details have been neglected.
- Several different and more detailed metaphysical proposals may be compatible with the realist thesis we presented, and the same is true of the idealist thesis.
- And according to our criterion, all genuinely distinct realist and idealist proposals would be logically incompatible with each other.

# What does this application inform us?

- Then, given our partial and incomplete identification of the opposing views, the most that the application of the criterion of logical incompatibility can tell us, in this case, is that:
  - The **idealist theses** (constructivism and phenomenism) are incompatible with classical logic and with any logic in which the excluded middle is a theorem.
  - The **realist theses** (Platonism and realism) are incompatible with intuitionistic logic and with any logic that rejects the excluded middle.

# Geometric Metaphysics

## Algebraic Metaphysics

- In what we have seen so far, there are two distinct ways in which a metaphysical statement can be made.
  - On the one hand, when I link existence with quantification, I am led to recognize that logical principles characterizing quantifiers constitute metaphysical principles that characterize existence.
  - On the other hand, I accept and recognize traditional metaphysical theses such as the realist and idealist ones.
  - But to state a traditional metaphysical thesis, as "*the mind is separate from reality*", is quite different from asserting a quantificational theorem, as  $\forall x (P(x) \vee \neg P(x))$ .
- There are, then, two quite different modes of metaphysical statements,

# Geometric Metaphysics

## Algebraic Metaphysics

- **THE GEOMETRIC MODE:** the mode of traditional statements, in which the realist and idealist theses are inserted.
  - I call it geometric mode because the statements according to this version have a more intuitive and pictorial character.
- **THE ALGEBRAIC MODE:** the mode of the logical statements, which contains quantificational sentences as  $\forall x (P(x) \vee \neg P(x))$ .
  - I call it algebraic, because the statements here have a formalized and symbolic character, like algebra.

# The Hypothesis of Isomorphism

- The analogy I want to suggest with these names is that:
- Just as the Cartesian coordinate system revealed that geometry and algebra are isomorphic, the criterion of logical incompatibility assumes as a **hypothesis** that the geometric and the algebraic modes of metaphysics are isomorphic.
- When I say:
  - the logical principles constitute metaphysical principles.
- I mean something similar to:
  - the algebraic equations constitute geometric figures.

# The Hypothesis of Isomorphism

- Logic would be for (traditional) metaphysics the same as algebra is for geometry:
  - Just another way of expressing and understanding it.
- Geometry and algebra do not reduce each other. They remain separate with different applications and motivations.
- But we can look at geometry through algebra. In doing so, we have even been able to extend the horizons of geometry beyond the three dimensions of our spatial intuition, which has had fruitful consequences in our physical theories, for example.
- Similarly, we can look at metaphysics through logic, and in doing so, perhaps this different perspective provides new possibilities for solving old problems.

# Quine, Dummett and the Geometric Mode

- Neither Quine nor Dummett was very concerned with geometric metaphysics. One denied it, and the other wanted to reform it.
  - The only metaphysical position that Quine assumed, and was unwilling to discuss since he always interpreted metaphysical questions ontologically, was in the algebraic mode. It was the concept of existence given by the quantificational theorems of classical logic.
  - Dummett, in turn, even accepted traditional theses and controversies, but treated them only as supervening images of logical-semantic theories of meaning, in which the actual theses and disagreements would be approached and solved.
- In contrast, I do not see the criterion of logical incompatibility as a substitution of traditional (geometric) metaphysics for logic (algebraic metaphysics), but only as an instrument of analysis that can help identify and clarify genuine metaphysical issues, ensure the relevance of metaphysics, and defend it from sterile debates.

# Theorems as Prohibitions and Obligations

- Every theorem with the form:

$$\neg \exists x \alpha(x)$$

is a metaphysical principle that establishes an impossibility, a prohibition imposed on all beings.

$$\neg \exists x (P(x) \wedge \neg P(x))$$

No individual can satisfy and not satisfy any predicate.

$$\forall x \alpha(x)$$

is a metaphysical principle that establishes a necessity, an obligation imposed on all beings.

$$\forall y (P(y) \vee \neg P(y))$$

All individuals are required to satisfy or not satisfy any predicate.

# Russell's Law

<p><b>Russell's law</b></p> $\neg \exists x \forall y (R(x,y) \leftrightarrow \neg R(y,y))$	<p>No individual relates to all and only those who do not relate to themselves.</p>
<p><b>Russell's law instance</b></p> $\neg \exists x \forall y (\text{Shaves}(x,y) \leftrightarrow \neg \text{Shaves}(y,y))$	<p>No individual shaves all and only those who do not shave themselves.</p>
<p><b>Russell's law instance</b></p> $\neg \exists x \forall y ((y \in x) \leftrightarrow \neg (y \in y))$	<p>There is no set of all sets that do not belong to themselves.</p>
<p>Russell's law is a <b>metaphysical principle</b> that protects reality from theories that take ontological commitments to paradoxically self-referential entities.</p>	
<p>The theories that propose the barber paradox village and the unrestricted comprehension schema are impossible under the structure of reality given by first-order classical logic.</p>	

# Theorems as Prohibitions and Obligations

- The theorems with the forms  $\neg\exists x\alpha(x)$  and  $\forall x\alpha(x)$  of a given logic **L** characterize quite explicitly the most general behavior of beings according to **L**.
  - In establishing what is forbidden (impossible) and what is obligatory (necessary), they also establish what is possible (permitted) to the things that exist.
  - In doing so, they describe how existence occurs.
  - and give us a meaning for existence.
- Therefore, they configure a detailed metaphysical explanation of the structure of reality and the concept of existence given by the logic **L**.

# What about the propositional theorems?

- What about the other theorems, such as the propositional ones? What is their relation to metaphysics?
- Theorems relate to one another, and in general, the propositional theorems have first-order cousins.

$$\begin{array}{l} \vdash (P \vee \neg P) \quad \Rightarrow \quad \vdash \forall y (P(y) \vee \neg P(y)) \\ \vdash \neg(P \wedge \neg P) \quad \Rightarrow \quad \vdash \neg \exists x (P(x) \wedge \neg P(x)) \end{array}$$

- It is because of the relationship between propositional and quantificational theorems that we do not need to restrict the criterion of logical incompatibility to quantificational theorems.
  - For a logic to provide a concept of existence, it must have quantifiers and be at least a first-order logic.
  - However, any logical incompatibility, even if it is a propositional one, is sufficient to guarantee distinct metaphysical commitments, since propositional incompatibilities generate first-order incompatibilities.

# The Generality of Quantificational Logics

**Our justification so far for the metaphysical character of logic is:**

By linking existence and quantification, the logical principles, which govern quantifiers, become metaphysical principles that regulate and characterize existence.

And the quantificational theorems, by relying only on logical principles, express the characteristics of existence and describe the most general structure of reality.

- For this argument to be acceptable, we still need to ensure that among the quantificational theorems of logic there are no particularities, only generalities.
- If I take metaphysics as the discipline which deals with the most general structure of reality, and I also say that any logic constitutes a metaphysical doctrine, then I have no choice but require that whatever I take to be a logic satisfies generality.

# The Generality of Quantificational Logics

We must ensure that **the quantificational theorems of logic:**

do not divide or separate reality;

do not refer to specific or part of the beings, but always to all of them;

do not make any particular, but only utterly general statements;

the prohibitions and obligations that they establish are always of all beings, not of just some.

- There is no way to demonstrate a generic theorem stating that all quantificational logics must respect generality.
- The best we can do is to argue for the plausibility of generality and to show that the most common systems satisfy it.

# We Should Avoid Existential Theorems

- Existential affirmations are the paradigmatic case of non-generic sentences, which affirm particularities that divide and separate reality.
  - $\exists x \alpha(x)$  is true even if only one individual satisfies it.
  - $\exists x \alpha(x)$  seems, then, to separate reality between those who satisfy it and those who do not satisfy it.
- A demonstration of the generality of a logic **L** would be obtained if we proved that there are no existential statements among its theorems.
  - But this is false for most of known logics.
  - Classical logic, for example, is full of existential theorems, because:
    - $\vdash \alpha \Rightarrow \vdash \exists x \alpha(x)$
- Each propositional theorem relates to an existential one.

# Intuitionistic Logic Satisfies Generality

- One way out of this problem would be to prove that:

$$\vdash \exists x \alpha(x) \Rightarrow \vdash \forall x \alpha(x)$$

Any particularity that we could assert through an existential theorem  $\exists x \alpha(x)$  would be only a partial affirmation of a generality guaranteed by  $\forall x \alpha(x)$ , which is also a theorem.

- There is a proof of this result for intuitionistic logic (without individual constants) which is a corollary of Prawitz's normalization theorem.
- It shows that any proof of  $\vdash \exists x \alpha(x)$  can be trivially transformed into a proof of  $\vdash \forall x \alpha(x)$ .

# Classical Logic Satisfies Generality

- This result ( $\vdash \exists x \alpha(x) \Rightarrow \vdash \forall x \alpha(x)$ ) does not hold for classical logic.

Here is a counterexample:

$\exists x (P(x) \rightarrow \forall y P(y))$  is a classical theorem

$\forall x (P(x) \rightarrow \forall y P(y))$  is not a classical theorem

- There is, however, an argument which guarantees that all counterexamples of classical logic, though having the form of an existential affirmation, make no particular statements and do not violate generality.

# Classical Logic Satisfies Generality

- As in the intuitionistic logic  $\vdash \exists x \alpha(x) \Rightarrow \vdash \forall x \alpha(x)$  holds.
- Then any classical counterexample where  $\vdash \exists x \alpha(x)$  but not  $\vdash \forall x \alpha(x)$ , the sentence  $\exists x \alpha(x)$  will not be an intuitionistic theorem. Otherwise,  $\forall x \alpha(x)$  would be an intuitionist and classical theorem.
- This fact guarantees that any justification for the validity of  $\exists x \alpha(x)$  will depend on an instance of the excluded middle  $(B \vee \neg B)$  which expresses two particular distinct circumstances that ensure the truth of  $\exists x \alpha(x)$ .
- That is,  $\exists x \alpha(x)$  is valid because it is true both when it is the case that  $B$ , and when it is the case that  $\neg B$ .
- But we do not know which of the two cases,  $B$  or  $\neg B$  justifies the truth of  $\exists x \alpha(x)$ .
- The fact that  $\exists x \alpha(x)$  is valid does not inform us which of the two cases occurs,  $B$  or  $\neg B$ , and therefore, we do not make any particular, but a general statement when we affirm that  $\vdash \exists x \alpha(x)$ .

# Generality as a Demarcation Criterion for Logic and Metaphysics

- I think the generality of quantificational theorems is plausible as a necessary condition for the account of a formalism as logic. But many may find it too restrictive.
  - However, as I'm taking metaphysics as the discipline which deals with the most general structure of reality, then if I want to say that any logic constitutes a metaphysical doctrine, then I must require generality of whatever I take to be a logic.
  - So, we are using the same notion of **generality** as a standard that demarcates both the boundaries of logic and of metaphysics.

# Generality as a Demarcation Criterion for Logic and Metaphysics

- There is plenty of room for disagreement here, but I think we should push or pull the boundaries of logic and metaphysics together.
  - We should be as much restrictive with what kind of formalisms we accept as conceivable logical systems, as with what possibilities for the structure of reality we accept as conceivable metaphysical views.
  - For Quine, there was just one conceivable logic and one conceivable metaphysics. Dummett showed us one other possibility in each case.
  - Today we have many roads to explore. They were open by the work of Heyting, Kolmogorov, Lukasiewicz, da Costa, Priest, Meyer, Lambert, Zadeh and so many others.

# Many Modes of Being (van Inwagen vs McDaniel)

- Kris McDaniel in "Ways of Being" defends the Heideggerian approach that existence is not univocal. There would be several ways of being:
  - *there are many things which we designate as 'being', and we do so in various senses.* (Heidegger, *Being and Time*)
- McDaniel seeks to accommodate Heidegger's position through different types of restricted quantifiers.
- Each type would express the meaning of a different way of being.
  - One of them, the "**existenzial**", would have as its domain of quantification beings that have "**existenz**", whose mode of existence is the mode of **concrete and particular things**.
  - The other, the "**subsistential**", would have as its domain the beings that have "**subsistence**", whose mode of existence is the mode of **abstract things**.

# Many Modes of Being? (van Inwagen vs McDaniel)

- There would be also a general sense of being, which would encompass all the restricted modes of being, and which would be given by the standard existential quantifier whose domain would be absolutely generic.
  - But, according to McDaniel, its meaning would be subsidiary to the restricted modes of being.
- However, beyond the mere assertion that there are different modes of being, and the linkage of some of these modes to quantifiers whose domains would be distinct, McDaniel does not say a single word that explains, demonstrates, or clarifies in what the distinction of multiple ways of being consists.

# How different are the modes of being?

- If the abstract existence of subsisting beings is different from the concrete existence of beings that exist, what does this difference consist of?
- What are the characteristics that distinguish the two domains of quantification and justify the separation he proposes?
- What is permitted (or possible) to beings of one kind that is forbidden (or impossible) to beings from another?
- There is no answer in his text to any of these questions.

# van Inwagen and The Univocity of Existence

- On the other side of the debate is Peter van Inwagen, who defends that there is only one way of being.
  - Existence is univocal, and its unique meaning is captured by the existential quantifier of first-order classical logic, whose domain of quantification is absolutely generic, encompassing everything that there is.
  - The logical rules, which regulate the existential quantifier, exhaust the possibilities for the meaning of existence.

# Regimenting The Modes of Being

- **THE ARGUMENT OF VAN INWAGEN:**
- Van Inwagen proposed several ways of regimenting the thesis of equivocality into first-order classical logic.
  - Some of them using a multi-sorted version of first-order logic and interpreting modes of being through restricted quantifiers, following precisely McDaniel's prescriptions.
  - Some others, however, formalizing the ways of being not as quantifiers, but as predicates whose extensions would coincide with the beings of each supposed mode.
- The crux of his case was to show that any argument that was informally valid (or invalid) when evaluated according to McDaniels original thesis would remain valid (or invalid) in any of his first-order classical logic regimented versions of McDaniels thesis.

# Regimenting The Modes of Being

- **VAN INWAGEN APPLIED THE CRITERION OF LOGICAL INCOMPATIBILITY**
- His regimented versions show that McDaniel's interpretation of the supposed multiple modes of existence is compatible with the way he interprets the single mode because their divergence does not affect how the two of them make inferences and so does not spread.
- **HOW VAN INWAGEN UNDERSTANDS HIS REGIMENTADE VERSIONS**
- Van Inwagen interprets his versions as a victory of univocity over equivocality.
  - In producing regimented versions of the thesis of equivocality in the system which, according to him, represents the thesis of univocity,
  - and by showing that these regimented versions behave concerning the arguments they validate or invalidate precisely as the original theory of McDaniel behaves,
  - he concludes that he has produced interpretations of the equivocality thesis in which being is univocal.

# Interpreting van Inwagen through our criterion

- The regimented versions of McDaniell thesis only show that the thesis of univocity, as van Inwagen understands it, given by the metaphysical commitments of first-order classical logic, is logically compatible with the thesis of equivocality, as McDaniell understands it.
- When we do not commit ourselves to the assumptions of either, McDaniell and van Inwagen, what remains is the logical compatibility between van Inwagen's univocity and McDaniell's equivocality.
- Then the divergence is not genuinely metaphysical.
- It is not an ontological divergence either, because it is not a disagreement about what exists or not.
- McDaniell says there are multiple modes of being, and van Inwagen says existence is univocal, but this disagreement does not generate any other disagreement outside its own terms, because it has no influence in the logic they accept.
- So, it is, only a verbal disagreement.

# A Credit For van Inwagen

- When we contrast the Heideggerian vocabulary of McDaniel's equivocality and the Quinean vocabulary of van Inwagen's univocity and confront them with the more obvious metaphysical commitments that first-order classical logic seems to assume, van Inwagen's position seems much more plausible.
- McDaniel seems to be forcing the meaning of words out of the ordinary by speaking in different ways of being without presenting any explanation as to what this difference consists of.

# Applying the criterion without commitment

- We do not need to assume van Inwagen's commitments to use his argument.
- The position of van Inwagen depends
  - on the acceptance of classical logics and all the metaphysical commitments,
  - as well as on the acceptance of the thesis of absolute generality of the domain of quantification for classical quantifiers.
- The application of the criterion of logical incompatibility, however, does not force us to assume any of these commitments.
- It merely shows us that the positions of the two philosophers are logically compatible and that the divergence, in their own terms, is not genuinely metaphysical.

**Thank You!**