

The Tools of Scientific Metaphysics

Alberto Corti^{1,2} & Christian Wüthrich¹

¹Université de Genève

²Università 'Carlo Bo' di Urbino

a.corti1@campus.uniurb.it; christian.wuthrich@unige.ch

September 23, 2021



1506
UNIVERSITÀ
DEGLI STUDI
DI URBINO
CARLO BO

DISPEA
DIPARTIMENTO DI
SCIENZE PURE E
APPLICATE



UNIVERSITÉ
DE GENÈVE

Overview

- 1 Course Introduction
- 2 Everything Must Go

Index

- 1 Course Introduction
- 2 Everything Must Go

Online Resources

Course Site: https://www.wuthrich.net/teaching/_MA6_ToolsSciMeta_2021.html

Course Material:

<https://moodle.unige.ch/course/view.php?id=10966>

Course Requirements

For credit in philosophy:

MA6 written research paper with defense (about 25 pages, 50000 characters).

MA8 written research paper (about 12 pages, 24000 characters) or oral presentation during the seminar.

We expect everyone to prepare the assigned readings ahead of time, actively participate in the seminar (including those featuring a guest speaker), and accept a reasonable share of presentation duties.

Seminar Presentations

We expect everyone to do a brief presentation on one of the assigned readings.

- You will be the leader for the entire seminar, including discussion. The presentation should last 15-20 minutes.
- Therefore, stick to the main points.
- Use visual complement (blackboard, slides, handout); take it as an occasion to try new ones!
- Read the article ahead of time, so that we have time to make an appointment if you want to meet and discuss it before your presentation.
- Don't stress out if there is something you don't understand; articulate what you don't understand, and it may well become the topic of the seminar.

Seminar Presentations

We expect everyone to do a brief presentation on one of the assigned readings.

- You will be the leader for the entire seminar, including discussion. The presentation should last 15-20 minutes.
- Therefore, stick to the main points.
- Use visual complement (blackboard, slides, handout); take it as an occasion to try new ones!
- Read the article ahead of time, so that we have time to make an appointment if you want to meet and discuss it before your presentation.
- Don't stress out if there is something you don't understand; articulate what you don't understand, and it may well become the topic of the seminar.

Metaphysics

Contemporary analytic metaphysics is the branch of analytic philosophy that deals with really general concepts considered necessary to grasp the mind-independent reality, e.g. time, location, properties, relations, dependence, etc.

Topic: Meta-metaphysics – What are the aims of (contemporary analytic) metaphysics? Is metaphysical knowledge achievable by human beings, and if so, how? As far as the (alleged) aim of metaphysics – increase our knowledge of reality – is shared by science as well, what is the relationship between science and metaphysics?

Topic: Meta-metaphysics – What are the aims of (contemporary analytic) metaphysics? Is metaphysical knowledge achievable by human beings, and if so, how? As far as the (alleged) aim of metaphysics – increase our knowledge of reality – is shared by science as well, what is the relationship between science and metaphysics?

Topic: Meta-metaphysics – What are the aims of (contemporary analytic) metaphysics? Is metaphysical knowledge achievable by human beings, and if so, how? As far as the (alleged) aim of metaphysics – increase our knowledge of reality – is shared by science as well, what is the relationship between science and metaphysics?

Topic: Meta-metaphysics – What are the aims of (contemporary analytic) metaphysics? Is metaphysical knowledge achievable by human beings, and if so, how? As far as the (alleged) aim of metaphysics – increase our knowledge of reality – is shared by science as well, what is the relationship between science and metaphysics?

There are different approaches to contemporary analytic metaphysics, which reflect the different answers to the questions above.

Metaphysics as the science of possibility

The **aim** of metaphysics is to discover what is possible. Metaphysical **knowledge** can be achieved by logically sound and a priori arguments, which often rely on (philosophically trained) intuition. **Science** investigate what is actual, whereas metaphysics what is possible. (Lowe, 1998)

Metaphysics as the inquiry of the fundamental structures of reality

The **aim** of metaphysics is to investigate the fundamental structure of reality. Metaphysical **knowledge** can be achieved with a mix of comparison with scientific results, a priori arguments and (rarely) intuition. Metaphysics is independent of **science**, even though they share their aim. In some sense, metaphysics is more fundamental than science. (Morganti & Thako, 2017)

Naturalised metaphysics

The **aim** of metaphysics is to investigate how reality is according to our best scientific theories. Not clear how much metaphysical **knowledge** might be distinguished from scientific one; anyway, we cannot know whether we reached it, and the best we can do is to cash out the best metaphysics available to us (given our current best scientific theories). Metaphysics is part of the **scientific** enterprise. (Ladyman & Ross, 2007)

Today's reading

Introduction of 'Everything Must Go. Metaphysics Naturalized' by Ladyman and Ross (L&R) → The book rose a huge debate in meta-metaphysics by proposing a radical form of Naturalized metaphysics.

Today's reading

Introduction of 'Everything Must Go. Metaphysics Naturalized' by Ladyman and Ross (L&R) → The book rose a huge debate in meta-metaphysics by proposing a radical form of Naturalized metaphysics.

Structure of the course

Shaffer, 2009 An example of what L&R call 'neo-scholastic metaphysics.'

Price, 2009 General arguments against the possibility of doing *any kind* of metaphysics.

McKenzie, 2020 Specific arguments against naturalised metaphysics.

Sider, 2020 Defense of a particular understanding of naturalised metaphysics.

Index

- 1 Course Introduction
- 2 Everything Must Go

Book's aim

Aim: Defend a radically naturalistic metaphysics, i.e. metaphysics motivated *exclusively* by attempts to unify hypotheses and theories that are taken seriously by contemporary science, by

- (1) arguing that no alternative kind of metaphysics is legitimate (introduction), and
- (2) providing an example of (good, in their view) naturalistic metaphysics (rest of the book).

Book's aim

Aim: Defend a radically naturalistic metaphysics, i.e. metaphysics motivated *exclusively* by attempts to unify hypotheses and theories that are taken seriously by contemporary science, by

- (1) arguing that no alternative kind of metaphysics is legitimate (introduction), and
- (2) providing an example of (good, in their view) naturalistic metaphysics (rest of the book).

Book's aim

Aim: Defend a radically naturalistic metaphysics, i.e. metaphysics motivated *exclusively* by attempts to unify hypotheses and theories that are taken seriously by contemporary science, by

- (1) arguing that no alternative kind of metaphysics is legitimate (introduction), and
- (2) providing an example of (good, in their view) naturalistic metaphysics (rest of the book).

Main Tenets

- Metaphysics must be based on our current best scientific theories. But our best scientific theories are likely to be incomplete. Hence, our metaphysics could also be false → we cannot reach metaphysical truth; but if our metaphysics are based on our best science at time t , then it is the best metaphysics possible at time t .
- Metaphysics must not 'domesticate' science.

Main Tenets

- Metaphysics must be based on our current best scientific theories. But our best scientific theories are likely to be incomplete. Hence, our metaphysics could also be false → we cannot reach metaphysical truth; but if our metaphysics are based on our best science at time t , then it is the best metaphysics possible at time t .
- Metaphysics must not 'domesticate' science.

Domestication

Non-Philosophers' metaphysics can be summarized by the 'container metaphor': the world is a kind of container bearing objects that change location and properties over time. They change properties and move prototypically by, respectively, interacting and banging into one another.

Domestication of science: the attempt to render pieces of contemporary science into terms that can be made sense of by reference to the containment metaphor.

Domestication

Non-Philosophers' metaphysics can be summarized by the 'container metaphor': the world is a kind of container bearing objects that change location and properties over time. They change properties and move prototypically by, respectively, interacting and banging into one another.

Domestication of science: the attempt to render pieces of contemporary science into terms that can be made sense of by reference to the containment metaphor.

Domestication 2

According to L&R, much of contemporary metaphysics consists of attempts of domestication. Domestication is problematic because:

- Ends up believing absurds claims.
- Mystify what scientific objects are.

Neo-Scholastic Metaphysics

When did contemporary analytic metaphysics rise?

Death of positivism and logical empiricism as serious philosophical options → Rehabilitation of metaphysics in the mid-1970s (Quine, Kripke, Putnam – & later on – Lewis).

The revival of metaphysics was accompanied by the ascendancy of naturalism in philosophy → metaphysics was close to science.

Neo-Scholastic Metaphysics

When did contemporary analytic metaphysics rise?

Death of positivism and logical empiricism as serious philosophical options → Rehabilitation of metaphysics in the mid-1970s (Quine, Kripke, Putnam – & later on – Lewis).

The revival of metaphysics was accompanied by the ascendancy of naturalism in philosophy → metaphysics was close to science.

Neo-Scholastic Metaphysics

When did contemporary analytic metaphysics rise?

Death of positivism and logical empiricism as serious philosophical options → Rehabilitation of metaphysics in the mid-1970s (Quine, Kripke, Putnam – & later on – Lewis).

The revival of metaphysics was accompanied by the ascendancy of naturalism in philosophy → metaphysics was close to science.

Neo-Scholastic Metaphysics 2

Yet, one of the main 'discoveries' has been that science usually underdetermines metaphysical answers.

- Exploring the possibilities of scientific metaphysics.
- Resurgence of projects which 'floats entirely free of science'.

Neo-Scholastic Metaphysics 2

Yet, one of the main 'discoveries' has been that science usually underdetermines metaphysical answers.

- Exploring the possibilities of scientific metaphysics.
- Resurgence of projects which 'floats entirely free of science'.

Intuitions and common sense

The second kind of projects presupposes that science is irrelevant to their resolutions and prioritize armchair intuitions about the nature of the universe over scientific discoveries. L&R: This approach is anti-naturalistic because:

- It ignores that science taught us that the universe is much stranger than our pre-theoretical conception
- It ignores the central implications of evolutionary theory, cognitive and behavioural sciences, concerning the nature of our minds.

Intuitions and common sense

The second kind of projects presupposes that science is irrelevant to their resolutions and prioritize armchair intuitions about the nature of the universe over scientific discoveries. L&R: This approach is anti-naturalistic because:

- It ignores that science taught us that the universe is much stranger than our pre-theoretical conception
- It ignores the central implications of evolutionary theory, cognitive and behavioural sciences, concerning the nature of our minds.

Intuitions and common sense 2

L&R's charge is two-fold:

- Philosophical 'common sense' is not laypeople's common sense: 'common sense' is developed in an environment, not something we are born with.
- Intuitiveness, plausibility, palatability, etc..., have nothing to do with the truth of a theory. e.g., science works with profoundly counterintuitive scales.

The criteria of adequacy for metaphysical systems have clearly come apart from anything to do with the truth. Rather they are internal and peculiar to philosophy, they are semi-aesthetic, and they have more in common with the virtues of story-writing than with science. (L&R, 2007, p.13)

Intuitions and common sense 2

L&R's charge is two-fold:

- Philosophical 'common sense' is not laypeople's common sense: 'common sense' is developed in an environment, not something we are born with.
- Intuitiveness, plausibility, palatability, etc..., have nothing to do with the truth of a theory. e.g., science works with profoundly counterintuitive scales.

The criteria of adequacy for metaphysical systems have clearly come apart from anything to do with the truth. Rather they are internal and peculiar to philosophy, they are semi-aesthetic, and they have more in common with the virtues of story-writing than with science. (L&R, 2007, p.13)

Intuitions and common sense 2

L&R's charge is two-fold:

- Philosophical 'common sense' is not laypeople's common sense: 'common sense' is developed in an environment, not something we are born with.
- Intuitiveness, plausibility, palatability, etc..., have nothing to do with the truth of a theory. e.g., science works with profoundly counterintuitive scales.

The criteria of adequacy for metaphysical systems have clearly come apart from anything to do with the truth. Rather they are internal and peculiar to philosophy, they are semi-aesthetic, and they have more in common with the virtues of story-writing than with science. (L&R, 2007, p.13)

Armchair metaphysics

L&R's critique of contemporary analytic metaphysics continues along three lines: methodology, aim & relationship with science.

Armchair Methodology

Apart from intuition, a common metaphysical methodology is that of 'reflecting on our concept.'

→ Why should we think that this sort of activity reveals anything about the deep structure of reality, rather than just telling us how some philosophers think?

One could reply that an uncertain epistemological ground should not stop practitioners from advancing their discipline's state of knowledge – insofar as the scientific epistemological ground is also uncertain (Sider).

→ Other disciplines proved their utility with results; what are the results of metaphysics?

Armchair Methodology

Apart from intuition, a common metaphysical methodology is that of 'reflecting on our concept.'

→ Why should we think that this sort of activity reveals anything about the deep structure of reality, rather than just telling us how some philosophers think?

One could reply that an uncertain epistemological ground should not stop practitioners from advancing their discipline's state of knowledge – insofar as the scientific epistemological ground is also uncertain (Sider).

→ Other disciplines proved their utility with results; what are the results of metaphysics?

Armchair Methodology

Apart from intuition, a common metaphysical methodology is that of 'reflecting on our concept.'

→ Why should we think that this sort of activity reveals anything about the deep structure of reality, rather than just telling us how some philosophers think?

One could reply that an uncertain epistemological ground should not stop practitioners from advancing their discipline's state of knowledge – insofar as the scientific epistemological ground is also uncertain (Sider).

→ Other disciplines proved their utility with results; what are the results of metaphysics?

Armchair Methodology

Apart from intuition, a common metaphysical methodology is that of 'reflecting on our concept.'

→ Why should we think that this sort of activity reveals anything about the deep structure of reality, rather than just telling us how some philosophers think?

One could reply that an uncertain epistemological ground should not stop practitioners from advancing their discipline's state of knowledge – insofar as the scientific epistemological ground is also uncertain (Sider).

→ Other disciplines proved their utility with results; what are the results of metaphysics?

Armchair Aim

A widespread idea is that metaphysics is the science of possibility, whereas science tells us what is actual (Lowe)

→ Why should we think that the methodology could help us know what could be the case? In the past, what philosophers thought (a priori) was impossible has been declared possible by scientific theories, e.g. space could be non-euclidian.

Armchair Aim

A widespread idea is that metaphysics is the science of possibility, whereas science tells us what is actual (Lowe)
→ Why should we think that the methodology could help us know what could be the case? In the past, what philosophers thought (a priori) was impossible has been declared possible by scientific theories, e.g. space could be non-euclidian.

Armchairs and labs

L&R: often metaphysicians try to be naturalists, but they don't try hard enough:

- (1) They ignore science even though it seems to be relevant.
- (2) They use outdated or domesticated science rather than our best contemporary science.
- (3) They take themselves to be able to proceed a priori in the investigation of matters upon which they claim science does not bear.

The lesson to be learned

The lesson which has to be learned by the *pars destruens* of the introduction is not that metaphysics is not possible or not worth being practised; rather, that it is flawed as it is currently practised and must work more closely with science.

The lesson to be learned 2

Indeed, they suppose that the main cause of the 'armchair downfall' of metaphysics is due to the fact that

'philosophers inevitably spend most of their time arguing with one another, until they forget that there is anyone else around or any important source of opinions besides rational argument. When philosophy became institutionally solipsistic, however, it risks making itself intellectually and culturally irrelevant.' (p.26)

Bad and Good Metaphysics

What is the main content of the *pars construens*?

Aim: find a principle to distinguish useful from useless metaphysics.

Bad and Good Metaphysics

What is the main content of the *pars construens*?

Aim: find a principle to distinguish useful from useless metaphysics.

Why metaphysics?

Why should we practice metaphysics?

L&R: 'One of the important things we want from science is a relatively unified picture of the world.' (p.27)

This reflects that the main source of justification for a hypothesis is its being in reciprocal explanatory relationships with other hypotheses.

Why metaphysics?

Why should we practice metaphysics?

L&R: 'One of the important things we want from science is a relatively unified picture of the world.' (p.27)

This reflects that the main source of justification for a hypothesis is its being in reciprocal explanatory relationships with other hypotheses.

What is metaphysics?

Given the motivation above, metaphysics should aim to elucidate reciprocal explanatory relationships among scientific hypotheses.

When metaphysics is meaningful?

Two part criteria:

- 'First, no hypothesis that the approximately consensual current scientific picture declares to be beyond our capacity to investigate should be taken seriously.' (p.29)
- 'Second, any metaphysical hypothesis that is to be taken seriously should have some identifiable bearing on the relationship between at least two relatively *specific* hypotheses that are either regarded as confirmed by institutionally *bona fide* current science or are regarded as motivated and in principle confirmable by such science.' (ibid)

When metaphysics is meaningful?

Two part criteria:

- 'First, no hypothesis that the approximately consensual current scientific picture declares to be beyond our capacity to investigate should be taken seriously.' (p.29)
- 'Second, any metaphysical hypothesis that is to be taken seriously should have some identifiable bearing on the relationship between at least two relatively *specific* hypotheses that are either regarded as confirmed by institutionally *bona fide* current science or are regarded as motivated and in principle confirmable by such science.' (ibid)

A criteria to distinguish the good from the bad

Any new metaphysical claim that is to be taken seriously should be motivated by, and only by, the service it would perform, if true, in showing how two or more specific scientific hypothesis jointly explain more than the sum of what is explained by the two hypotheses taken separately, where 'a scientific hypothesis' is understood as an hypothesis that is taken seriously by institutionally bona fide current science. (p.30)

The lessons

What metaphysics should learn from all of this?

- (1) Metaphysics must work with science, not *for* science nor independently from it.
- (2) As far as metaphysics is motivated by science, we should expect progress in metaphysics iff we can expect to make progress in science. (p.35)
- (3) Metaphysical hypotheses must not be doctrines that must be defended at all costs; indeed, metaphysical truth cannot be achieved. The best metaphysicians can aim for is to find the best metaphysical theory at time t . (p.59)

The lessons

What metaphysics should learn from all of this?

- (1) Metaphysics must work with science, not *for* science nor independently from it.
- (2) As far as metaphysics is motivated by science, we should expect progress in metaphysics iff we can expect to make progress in science. (p.35)
- (3) Metaphysical hypotheses must not be doctrines that must be defended at all costs; indeed, metaphysical truth cannot be achieved. The best metaphysicians can aim for is to find the best metaphysical theory at time t . (p.59)

The End