

Session 1. Introducing the Issues

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FIL4200: Epistemology and Philosophy of Science

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General structure of the seminars

We will start with the student presentation of the main reading each week.

(This is a requirement for those who want to take the course for credit.)

We'll then discuss the presentation for just under an hour (this can be done synchronically if you like).

We'll take a short 5-10 minute break about halfway.

I (may) then present and discuss some more general issues followed by more discussion for the rest of the time period.

(e.g. If we start at 1415, I'll be looking to wrap up the first half around 1500, start again by 1515, then be done at 1600.)

Today I'll introduce the course, and talk about some key themes we'll discuss throughout.

We can then talk about any administrative details in the last 45 minutes or so.

First, I'd like to hear a sentence (or two) from each of you about your background and interests.

Introduction

First a little about me.

I work a lot in the philosophy and foundations of **mathematics**.

But I think there's important connections between this work, **epistemology**, and **the philosophy of science** more broadly.

In this course we're going to look at **contemporary** research into some issues in epistemology and the philosophy of science.

Though I'll present some ideas each session, I **won't** lecture in the conventional way.

I want to run this as a **seminar**—you are all masters-level now, and part of what I want out of these are good conversations (rather than lecturing from 'on high').

Remark about conduct in seminars and online forum. Discussion can be lively. Great! I don't need to tell you all, but just in case—keep it respectful and constructive, give everyone a chance to speak, appreciate that others have different viewpoints/experiences et cetera, et cetera...

Questions?

1 Agnotology

Agnotology is the study of **ignorance** (i.e. things we **don't know**).

But there are loads of ways I can be ignorant.

Opaque vs. non-opaque ignorance. Consider this quotation from former US Secretary of Defense Donald Rumsfeld:

...there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns—the ones we don't know we don't know.

Sometimes our ignorance is *non-opaque* (I don't know how many kilometres my dad's car has done, but I **know** that I don't know).

Rumsfeld points out that sometimes our ignorance is **opaque**, sometimes we **don't** know that we don't know.

This can be in the case of a **false** belief (e.g. suppose I read the odometer on my dad's car wrong).

But I can also simply have **no** doxastic state regarding a question (e.g. a question I've **never** considered).

The odometer is a case of *non-deep* or *shallow* ignorance, I can **understand** the answer (indeed I could **easily find out**).

But instead suppose that I want to understand the **fundamental structure of physical reality**.

Plausibly, it's not just the case that I don't know, but also that I **couldn't understand** an answer (even if it was given to me).

Ignorance creation. There are different ways ignorance can be created.

Passive. We can **passively** create ignorance.

Active. Ignorance can be **actively** constructed.

e.g.1. (Passive) New **primitives** (e.g. *string*) open up new kinds of questions to be ignorant about.

e.g.2. (Passive?) When we discovered relativistic physics, a bunch of passive ignorance was opened towards questions about the **geometry of spacetime**.

e.g.3. (Active) Tobacco/oil industry, **disinformation** online (and in general).

Question. Are we ignorant of **propositions** or **questions**?

Question. Does it **matter**?

Question. (Eirik, Thijs, Michel) Is the "agent" of ignorance the **individual** or the **group**? How might ignorance between each be **different**?

Virtuous. Ignorance, we might think, can be *virtuous* (or helpful).

e.g.1. Ignorance of cognitive difference research.

e.g.2. Ignorance of one's abilities (e.g. the confident but lazy student).

Question. Can ignorance be virtuous? (Or should it be recontextualised...)

Question. (Xinzhao) Is there a link between **active** ignorance and **virtuous** ignorance?

How to address ignorance. We might consider how we **weigh evidence** and come to **remove** ignorance.

(We'll address this later in the course.)

Question. (Thijs, Eirik, Kasper, Michel) What methods are there for addressing ignorance?

Dimension 1. Principles of inference (e.g. induction, inference to the best explanation, ...).

Dimension 1.5. (Thijs, Michel) What **practical** ways **do** we address ignorance? (e.g. role of machine learning systems, actual human inference).

Dimension 2. Philosophical framework for doxastic states (e.g. foundationalism, coherentism,...)

Scope. (Kasper, Thijs) Is ignorance inevitable?

(Contrast, for example, the **large** tradition in sceptical arguments.)

Political aspects of ignorance. Ignorance can be **weaponised**.

Question. How to **combat** this weaponisation?

Question. How **far** does the politicisation of ignorance extend? (e.g. the natural sciences?, mathematics?)

Other questions?

2 Suspension of judgement

A different issue concerns **suspension of judgement**.

I can be ignorant whilst being in a state of **belief** (e.g. with opaque ignorance).

But I can also be in a state of **non-belief**.

A significant subclass of states **non-belief** include those where I **suspend judgement**, I **actively** refrain from taking a belief towards the truth-value of a proposition.

Example. Until I wrote this sentence, I was in a state of **mere non-belief** about how many sheets of paper there are in my office. But I've **now** moved to suspending about this question, because I am reflecting on the fact that I have **no idea**.

Question. How should we conceive of suspension? (e.g. propositional attitude, answer to a question, ...)

Question. How (if at all) are agnotology and suspension linked?

Question. Are there **different kinds** of suspended judgement?

Question. Does the nature of suspended judgement **vary** between subject area?

Other questions?

3 A connection to pluralism and perspectivism?

Pluralism is the idea that there are many **equally legitimate** frameworks for reasoning.

It's increasingly popular in **science**, **logic**, and **mathematics** (and probably in other areas too).

Observation. There are different frameworks/theories/models we use in science that are:

1. Really **good/useful** (in various ways).
2. **Inconsistent** with one another.

e.g.1. Different structures of relativistic spacetime.

e.g.2. Obvious idealisations (e.g. infinitely deep oceans in wave mechanics).

e.g.3. Differences of scale (e.g. Hooke's Law¹ and beam mechanics).

Distinguish the following three kinds of pluralism (let's restrict to science for now):

Methodological Pluralism. There are many *equally good* theories we use for reasoning in science.

Strong Pluralism. These equally good theories are true of some subject matter.

Perspectivism. These equally good theories provide **partial** information about a single underlying subject matter.

(e.g. imagine we're looking at Georg Morgenstierne's Hus from different angles—how many windows are there?)

Question. Is there a **link** between these kinds of pluralism and **negative epistemology**?

Other questions?

¹Roughly, this states that the force needed to extend or compress a spring or beam by some amount scales linearly with respect to that amount.