

## Lecture 2

### Concrete Modal Realism & Abstract Modal Realism

#### 1. Review

Last time, we began looking at Lewis' **concrete modal realism**. We saw that he defined a world as follows:

***W* is a possible world iff...**

*W* is a maximal mereological sum of spatiotemporally related objects.

We also learned that, on this account, actuality is indexical, and objects are world-bound.

We also considered one immediate objection to this account: namely, that it bloats our ontology. In response, Lewis argued that while his account is **quantitatively unparsimonious** in that there many more individuals in its ontology (than there are on other accounts), the account is **qualitatively parsimonious** in that it posits fewer *kinds* of objects.

Another substantial part of Lewis' argument in favour of concrete modal realism consists in his arguments *against ersatzism* (or **abstract modal realism**). As such, today we'll look at some abstract accounts, and the comparative advantages Lewis takes concrete modal realism to have over them.

#### 2. "Paradise on the Cheap"

Lewis considers several different kinds of abstract modal realism. But before we look at these, we should consider what abstract modal realism consists in more broadly.

This family of theories has been given a number of different labels: **abstract modal realism**, **ersatzism**, and **actualism** to name a few. Theories that fall under this category share in common the following commitments:

- i. Everything that exists is actual. (Hence 'actualism'.)
- ii. Our world is the only one that is *actualised*.
- iii. Merely possible worlds exist. (Hence this is a form of realism.)
- iv. Merely possible worlds are *abstract* existents. (Hence 'abstract modal realism')

Let's take each of these claims in turn...

**i. Everything that exists is actual.**

This amounts to a commitment that our world and its contents are all that there is. This is *not* the same as saying that only concrete things exist! Abstract modal realists accept that our world also includes abstract entities. E.g. numbers, sets.

Notice that this directly contradicts concrete modal realism. Concrete modal realists are committed to the existence of non-actual objects. (After all, actuality is a merely indexical notion on their account.)

**ii. Our world is the only one that is *actualised*.**

Unlike Lewis, abstract modal realists maintain that there is something distinctive or special about our world compared to other merely possible worlds. Different versions of abstract modal realism will cash out this distinctiveness in slightly different ways. In general, they all agree that only our world is *actualised* (i.e. only our world is such that, according to  $W$   $p$  is true iff  $p$ ).

All of the accounts in this category understand possible worlds as *representational*; they are entities that represent things as being a particular way. What is distinctive about our world, then, is that its representational entity represents what is *true*. For a sense of what this means, compare the following two sentences:

$S_1$ : Penguins have two feet.

$S_2$ : Penguins have three feet

$S_1$  represents penguins as having two feet, and  $S_2$  represents penguins as having three feet. But,  $S_1$  represents something that is true; it represents a fact, if you like. On the other hand,  $S_2$  represents a falsehood.

**iii. Merely possible worlds exist.**

It is this commitment that makes theories in this category *realist*. These theories will accept the truth of sentences like 'There is a possible world where penguins have three feet'.

**iv. Merely possible worlds are *abstract* existents.**

All of the theories in this category agree that possible worlds are not concrete (contrary to concrete modal realism). However, they disagree as to precisely what kind of abstract existent merely possible worlds are. The next section will cover the different options available.

### 3. Varieties of Abstract Realism

As just mentioned, the different kinds of abstract realist disagree about what kind of abstracta constitute possible worlds. The candidates that Lewis identifies are as follows:

- Sentences
- Propositions
- States of Affairs
- Properties
- Pictures
- Abstract Simples

We won't look at all of these. Instead we'll focus on two of the more common candidates: **sentences** and **states of affairs**.

As I said above, a large part of Lewis' argument for concrete realism is his negative argument against abstract realism. Why? Well, he takes seriously the thought that, *if* we could accomplish everything we wanted to accomplish by taking worlds to be abstract parts of our world, this would be ontologically and theoretically advantageous. His negative arguments attempt to show that we can't accomplish all that we want to with these "cheaper" possible worlds.

#### **SENTENTIALISM**

On this view, possible worlds are **maximal consistent sets of sentences**.

A set of sentences is **consistent** iff  
all its members can be true together.

A set of sentences is a **maximal** consistent set iff,  
for all atomic sentences  $p$ , either  $p$  or  $\neg p$  is a member of the set.

Given this, we can now understand possibility and necessity in terms of the members of these sets of sentences.

$P$  is **possible** iff  $P$  is a member of **some** world (i.e. set of sentences)  
 $P$  is **necessary** iff  $P$  is a member of **all** worlds (i.e. sets of sentences)

#### **-Plausibility-**

On the surface of it, sententialism looks like it can do a lot of the world concrete realism could do. It preserves the useful possible-world semantics for modal claims, and does so without inflating our ontology. After all, sentences (indeed infinitely many of them) are already part of our ontology.

## -Problems-

### (1) Irreducible Modality

According to Lewis, the problem with this view is that it looks like we cannot cash out **consistency** without appealing to modality. To be consistent, recall, was for it to be *possible* for the members of the set to be true together.

Now, you might think we could define consistency in **syntactic** terms instead. We could say that a set of sentences is consistent just in case there is no way to derive a contradiction from its members (given FOL derivation rules). This would indeed prevent us from having any sets of sentences that are **logically inconsistent**. The trouble is, there is reason to think that there are **metaphysical impossibilities** that are logically possible. Consider the sentence: '*b* is red all over and *b* is green all over.' We cannot derive a contradiction from this sentence in FOL!

Here again, the sententialist might propose to add an axiom to FOL so that we *could* derive a contradiction from this proposition (e.g. 'for all *x*, it is not the case that *x* is red all over and *x* is green all over'). But this strategy will require the sententialist to add axioms for *every non-logical impossibility*. This includes '**bridging laws**' that would ensure, for instance that sentences at different levels of description remain consistent. Suppose there is some sentence about the micro-physical arrangement of particles such that there is a penguin in Antarctica right now. This is logically consistent with a sentence about the macro-physical objects such that there is *no* penguin in Antarctica right now. At this point, the worry is that we will need **infinitely many** of these bridging laws, and the sententialist will never be able to provide them all. The only thing they could do is to say 'A is an axiom just in case A is non-logically necessary'. But now they've invoked modality again.

### (2) Expressive Power

Lewis also objects to sententialism on the grounds that the "worldmaking language" as he calls it cannot be expressively powerful enough to express all of the possibilities that we wish to countenance. First, it seems like it is possible for there to be **distinct yet indiscernible possibilities**. Since, on sententialism, a possibility is nothing other than a description of a possibility, there could not be any such things. (This problem will come up again when we look at possible individuals, as opposed to possible worlds, next week.) Second, it seems like it is possible that there are **alien properties**—i.e. properties that do not exist at the actual world (and so, for which we have no words). But, how can a sententialist account for worlds with such properties? They could not, after all, have sentences with the names of those properties. They may be able to say that there exists some property that doesn't exist at the actual world; but this looks to conflate all alien properties with one another (it doesn't distinguish between distinct alien properties).

### STATES OF AFFAIRS (CF. STALNAKER, PLANTINGA)

On this view, possible worlds are **maximal consistent states of affairs**.

A state of affairs is **consistent** iff  
it is possible that it obtains.

A state of affairs  $S$  is **maximal** iff,  
for every state of affairs  $S^*$ , either it is impossible that  $S$  obtain and  $S^*$  does not  
or it is impossible that  $S$  and  $S^*$  obtain.

Given this, we can understand possibility and necessity in terms of truth at maximal consistent states of affairs:

$P$  is **possible** iff  $P$  is true at some maximal consistent state of affairs.

$P$  is **necessary** iff  $P$  is true at all maximal consistent states of affairs.

Finally,

$P$  is **true at a maximal consistent state of affairs** iff necessarily, if  $S$  obtains then  $P$ .

### -Plausibility-

This version of abstract realism also respects actualism. It also makes worlds epistemically accessible to us in the way that sententialism does. Further, one advantage it holds over sententialism is that it does not depend on any particular language to generate worlds.

### -Problems-

#### (1) Irreducible Modality

It's immediately clear that this account of possible worlds is non-reductive. It invokes notions of possibility several times (see: definitions of maximal consistent states of affairs, and of obtaining).

#### (2) "Magic"

We said above that  $p$  is true at a world (on this view) iff, necessarily, if  $S$  obtains then  $p$ . Now, all states of affairs represent the world as being a particular way. But, only one of those worlds represents the world as being the way that it actually is. Call the world that represents actuality  $S_1$ . It stands in a special relation with the actual world (since it represents how the world is); Lewis calls this relation the **selection relation**.

The selection relation could be one of two different kinds of relation: **internal** or **external**.

A relation is **internal** iff it holds in virtue of the intrinsic natures of its relata.

A relation is **external** iff it doesn't hold in virtue of the intrinsic natures of its relata.

If the selection relation is **external** then, according to Lewis, the result is that some intrinsic feature of one relatum (in particular, the actual world) necessarily depends on the actual world standing in an external relation to  $S_1$ . In other words, the intrinsic nature of our world (i.e. the way our world *is*) necessarily depends on the relation [ $p$  is true at our world iff our world selects  $S_1$ ]. This, Lewis argues, is **magical**. How can standing in this external relation compel the existence of, say, only bipedal penguins?

On the other hand, if the selection relation is **internal** then, according to Lewis it's mysterious how we could have any knowledge of that relation. If our world selects  $S_1$  iff there are, say, bipedal penguins, and if selection is an internal relation, then there must be something **internal to  $S_1$**  that makes it the case that this relation holds. This must be some kind of **representational property** – a property in virtue of which  $S_1$  (and not some other world) *represents* the actual world. But how could we come to know about this property? We couldn't be **acquainted** with it (the way you might think we are acquainted with colour properties) since states of affairs (and so too their properties) are **abstract** by definition. Neither can we provide an **analysis** of what this representational property is. Lewis considers a candidate analysis in the form of the following:

$P$  is the property of representing that there are bipedal penguins iff  
Necessarily, if  $S$  has  $P$  and  $S$  is selected then there are bipedal penguins.

He rejects this, though, on the grounds that it is merely “a theory-schema, which any number of different theories could fit” (175).