I. Kant
   A. Core ideas
   • Kantians accept the existence of ordinary and scientific objects; but deny that they exist independently of our minds.
   • Kant distinguishes between things as they exist in themselves (noumena) and things as they appear to us (phenomena)
   • Noumena have an unknowable structure; our minds impose structure on phenomena.
     o Mental structures include:
       ▪ “The forms of intuition” = space and time.
       ▪ “The categories of the understanding” = quality, quantity, relation, modality
   • These mental structures are a priori (i.e. things that can’t be learned through experience), but instead must be presupposed if we are to have the kinds of experiences that aren’t merely subjective episodes (e.g. the kinds of experiences that could stand as evidence to other people.)
   B. Transcendental argument: example
   1. If S can experience an objective time series, then S can distinguish this time series from a subjective time series.
      a. Dog example (41)
   2. If S can distinguish objective and subjective time series, then S has the concept of a sequence that does not depend on S’s sequence of experiences.
   3. If S has the concept of a sequence that does not depend on S’s sequence of experiences, then S has the concept of cause-and-effect.
   4. ∴ If S can experience an objective time series, then S has the concept of cause-and-effect. (From 1-3)
   5. Some S (namely, most rational humanoids) can experience objective time series.
   6. ∴ Most rational humanoids have the concept of cause-and-effect. (From 4,5)
   C. Transcendental argument: general form
   1. If S can make certain discriminations in her experiences, then S has the concept of F.
   2. S can make certain discriminations in her experiences.
   3. ∴ S has the concept of F. (From 1,2)
   D. Kant & Skepticism
   1. We cannot have knowledge of noumena, i.e. how things are in themselves.
   2. However, we can have knowledge of phenomena.
   3. Ordinary and scientific objects are phenomena.
   4. ∴ We can have knowledge of ordinary and scientific objects. (From 1-3)
   E. Non-Euclidean geometry
   1. If Kant’s theory of space is correct, then our minds necessarily structure physical space in accordance with Euclidean geometry, and the Euclidean structure of physical space is knowable a priori.
   2. If Einstein’s theory of space is correct, then physical space is not Euclidean, and the structure of space is not knowable a priori.
   3. ∴ If Kant’s theory of space is correct, then Einstein’s is not. (From 1,2)
   4. Einstein’s theory of space is (much more likely to be) correct (than Kant’s).
   5. ∴ (Probably) Kant’s theory of space is incorrect. (From 3,4)
   • Contemporary Kantians (Kuhn, Friedman) frequently deny Kant’s requirement that necessary features of experience and thought are knowable a priori.
II. Putnam’s internal realism
   A. Core ideas
   • There are many different conceptual schemes that are equally legitimate:
     o Conceptual scheme: set of concepts used to categorize objects.
   • Our conceptual scheme includes the concepts of cats, dogs, planets, etc.
B. Model theory: key elements

- **Compositional theories of truth**: the truth-value of a sentence is determined by its elements.
- **Model**: A model $M$ consists of a domain $D$ of objects and a value assignment (function) $v$, such that $v$:
  o Assigns an object to one or more names.
    - Ex. Let $D = \{\emptyset, \emptyset, \emptyset\}$; then $v(\text{Mr. Happy}) = \emptyset$
  o Assigns extensions to predicates:
    - *Extensions* are sets of objects; or sets of ordered n-tuples of objects.
    - Ex. Now let our model also include $v(\text{is smiling}) = \{\emptyset\}; v(\text{is happier than}) = \{<\emptyset, \emptyset>, <\emptyset, \emptyset>, <\emptyset, \emptyset>\}$
  o Importantly: Putnam takes concepts to be nothing more than names and predicates; conceptual schemes are just families of models.
- **Compositionality again**:
  1. $v(\text{Mr. Happy is smiling}) = \text{True}$ if and only if $v(\text{Mr. Happy}) \in v(\text{is smiling})$
  2. $v(\text{Mr. Happy}) \in v(\text{is smiling}) = \emptyset \in \{\emptyset\}$
  3. So, $v(\text{Mr. Happy is smiling}) = \text{True}$

C. Model-theoretic argument

**MT1.** Any collection of sentences that are made true by a model that contains the same number of things as the actual world can be made true in the actual world.

**MT2.** There are various collections of sentences that are made true by models that have the same number of things as the actual world, and these collections of sentences contradict one another.

**MT3.** ∴ There are various collections of sentences, all of which are true of the actual world, but which contradict one another. (From MT1, MT2)

- Illustration of MT1: Let $D$ be as above, and let $D' = \{1,2,3\}$
  o We can set up a model $M'$ where $v(\text{Mr. Happy}) = 1; v(\text{is smiling}) = \{1\}$
  1. Argument for MT2

**MT4.** There are possible worlds $w$ in which: (a) some sentences that are true in the actual world are false in $w$, at the same time that (b) there is exactly the same number of things in $w$ as in the actual world.

  a. Ex. Imagine everything is the same in $w$, except that Barack and Michelle Obama trade places; Barack is the first gentleman; Michelle is the president; etc.

**MT5.** ∴ The collections of sentences in $w$ can be made true in the actual world (From MT1, MT4)

**MT6.** However, these collections of sentences will contradict some of the sentences that we accept.

  a. Ex. The model from $w$ will make it true that ‘Barack Obama is not the president of the USA.’

**MT2.** ∴ There are various collections of sentences that are made true by models that have the same number of things as the actual world, and these collections of sentences contradict one another. (From MT5, MT6)

D. The objection from referential realism

1. If the model-theoretic argument is sound, then there are no unique correct reference relations.

  a. Reference: the relationship between words and the world.
  b. Referential realism: there is a unique correct reference relation.
2. There are unique correct reference relations,
3. ∴ The model-theoretic argument is not sound. (From 1,2)
E. Putnam vs. referential realism

1. If there are unique correct reference relations on a theory $T$, then there are some constraints $C$ on any model of that makes $T$ true.
2. If $C$ constrains any model that makes $T$ true, then there is a model that makes $T+C$ true.
3. If there is a model that makes $T+C$ true, then there is also a model that makes $T'+C$ true.
   a. Here $T'$ is any theory that is true in a world with the same number of objects as the actual world, and that is also consistent with $C$.
4. ∴ Even if there are unique correct reference relations on a theory $T$, the model-theoretic argument is still sound. (From 1-3)

F. Just more theory?

• Putnam’s response to the referential realist argument presupposes that objective reference relations are constraints that are internal to one’s theory, i.e. we have to have beliefs about reference relations.
• However, others hold that certain reference relations are objective independently of our beliefs/theories.
  o Millikan: Certain concepts objectively refer to certain things because otherwise, we could not explain the adaptive (evolutionary) value of having those concepts.
  o Merrill/Lewis: concepts ought to refer to natural kinds, i.e. collections of things that have common properties that allow us to make predictions and systematic explanations.

III. Internal realism & relativism

A. Internal realism: basic idea

• ‘$p$ is true (full stop)’ makes no sense; it’s merely shorthand for $p$ is true, according to theory $T$, that I accept.
  o Theories are often called “conceptual schemes.”
• This makes Putnam a relativist: what is true depends on your conceptual scheme, and there is more than one conceptual scheme.
• However, Putnam thinks that some rules of justification are better than others

B. Davidson on conceptual schemes

D1. If we know that a conceptual scheme $T^*$ is incommensurable with our own conceptual scheme $T$, then we know that $T^*$ cannot be translated into $T$.
D2. If we know that $T^*$ cannot be translated into $T$, then there is some condition $X$ such that we know that: $T^*$ is true if and only if $X$, and $T$ is not true if $X$.
D3. But if we know that $T^*$ is true if and only if $X$, then we know how to translate $T^*$ into $T$.
D4. ∴ We cannot know that a conceptual scheme is incommensurable with our own. (From D1-D3)
D5. If we cannot know that a conceptual scheme is incommensurable with our own, then there’s only one conceptual scheme.
D6. If there is only one conceptual scheme, then relativism is false (for all that we can know.)
D7. So, relativism is false (for all that we can know.) (From D4-D6)

C. Putnam vs. Davidson (D5)

1. Suppose that $S$ knows that $T^*$ is true if and only if $X$.
2. Then from a first-person perspective, Putnam agrees with Davidson: $S$ knows that $T^*$ is not incommensurable with $T$.
3. However, from a third-person perspective, Putnam disagrees with Davidson: The sentence ‘$T^*$ is true if and only if $X$’ is true according to $S$’s conceptual scheme $T$.
4. But if one conceptual scheme is true according to another conceptual scheme, then there are at least two conceptual schemes.
~D5. ∴ Even if we cannot know that a conceptual scheme is incommensurable with our own, there may be more than one conceptual scheme. (From 1-4)