

# Temporary Intrinsic

Advantage Hylomorphism?

# A Problem for Us All

- Irving Copi once defined the problem of identity through time by noting that the following two statements both seem true but, on the assumption that there is change, appear to be inconsistent:
  - If a changing thing really changes, there can't literally be one and the same thing before and after the change.
  - However, if there isn't literally one and the same thing before and after the change, then no thing has really undergone any change.
- Gallois (*SEP*, 'Identity over Time')

# A Meek Justification

- Traditionally, this puzzle has been solved in various ways. Aristotle, for example, distinguished between “accidental” and “essential” changes. Accidental changes are ones that don't result in a change in an objects' [sic] identity after the change, such as when a house is painted, or one's hair turns gray, etc. Aristotle thought of these as changes in the accidental properties of a thing. Essential changes, by contrast, are those which don't preserve the identity of the object when it changes, such as when a house burns to the ground and becomes ashes, or when someone dies.
- Armed with these distinctions, Aristotle would then say that, in the case of accidental changes, (1) is false—a changing thing can really change one of its “accidental properties” and yet literally remain one and the same thing before and after the change.
- Of course, this solution to the puzzle depends on there being a coherent distinction between accidental and essential changes, and between accidental and essential properties. Some philosophers find this distinction problematic and have developed other solutions that don't require this distinction. In what follows, we discuss these solutions to the puzzle, along with other puzzles that arise when considering the identity of objects over time.

—Gallois (*SEP*, ‘Identity over Time’)

# A Graver Threat?

- ✦ The fact that '[s]ome philosophers find this distinction problematic' does not give us much cause for concern.
- ✦ A graver threat: the problem of temporary intrinsics.

# Some Preliminaries

- ✦ Persistence, perdurance, and endurance
- ✦ Intrinsic and Extrinsic Properties

# Endurance and Perdurance

- Let us say that something *persists* iff, somehow or other, it exists at various times; this is the neutral word.
- Something *perdures* iff it persists by having different temporal parts, or stages, at different times, though no one part of it is wholly present at more than one time; whereas it *endures* iff it persists by being wholly present at more than one time.
- Perdurance corresponds to the way a road persists through space; part of it is here and part of it is there, and no part is wholly present at two different places.
- Endurance corresponds to the way a universal, if there are such things, would be wholly present wherever and whenever it is instantiated. Endurance involves overlap: the content of two different times has the enduring thing as a common part. (Lewis, 1986, 202)

# Temporary Intrinsic

The principal and decisive objection against endurance, as an account of the persistence of ordinary things such as people or puddles, is the problem of temporary intrinsic. Persisting things change their intrinsic properties. For instance shape: when I sit, I have a bent shape; when I stand, I have a straightened shape. Both shapes are temporary intrinsic properties; I have them only some of the time. How is such change possible? I know of only three solutions. (Lewis, 1986, 202)

# Intrinsic vs. Extrinsic

- $\phi$  is an intrinsic property of  $o$  *iff* (i)  $\phi$  is a property of  $o$ ; and (ii) possibly  $o$  is  $\phi$  in a world in which  $o$  alone exists.
- $\phi$  is an extrinsic property of  $o$  *iff* (i)  $\phi$  is a property of  $o$ ; and (ii)  $\phi$  is not an intrinsic property of  $o$



# The Three Solutions

- First Solution: Perhaps shapes are not intrinsic properties.
  - Lewis: 'This is simply incredible.'
- Second Solution: Presentism.
  - Lewis: This 'is even less credible than the first solution.'
- Third Solution: Perdurantism

# The Argument

- (1) If some object  $o$  is  $\phi$  at  $t_1$  and not- $\phi$  at  $t_2$  (when  $\phi$  is an intrinsic property of  $o$ ), then either  $o$  perdures or endures.
- (2) If  $o$  endures, then  $o$  is both  $\phi$  and not- $\phi$ .
- (3) LL:  $\forall x \forall y [x=y \rightarrow \forall F (Fx \rightarrow Fy)]$
- (4) Hence,  $o$  does not endure.
- (5) Hence,  $o$  perdures.

# First Pass

## ▪ Three-Dimensionalism

- Diachronic objects (DOs) are 'wholly present' at each moment of their existence
- DOs are not aggregates of temporal parts

## ▪ Four-Dimensionalism

- DOs mirror the structure of space-time
- DOs are aggregates of temporal no less than spatial parts

# Space-Time

- Space-time (ST) is a multi-dimensional object
  - ST has as its ultimate constituents *ST points*
    - *Pointiness*: every region is composed of ST points
  - Any collection of ST points makes up a space-time *region*
    - *Universality*: Every collection of ST points composes a region
  - Different regions require different sets of ST points
    - *Uniqueness*: Every collection of ST points is such that there is exactly one thing composed by the points in that collection.

# Fundamentality

- One domain  $D_1$  is more *fundamental* than another domain  $D_2$  if  $D_2$  exists in virtue of  $D_1$  (or truths about items in  $D_2$  are true in virtue of truths about items in  $D_1$ ).
- Pointy Object Fundamentality
  - Points are ontologically more fundamental than extended regions
- Pointy Fact Fundamentality
  - Facts about points and their relations are more fundamental than facts about extended regions

# Hard-Core 4-D

- ✦ Every material object is *identical* with an ST region.
  - ✦ It follows (from universality) that every region is identical with an object
  - ✦ It follows (from uniqueness) that there is exactly one object in every region

# 4-D and Time

- Consider: necessarily, if  $S$  is constituted by parts  $p_1 \dots p_n$ , then  $p_1 \dots p_n$  exist; so, if I am composed *inter alia* of my past and future parts as well as my present (temporal) part, then my past and future parts exist no less than my present temporal part.
- So, if 4-D, then presentism is false.
- Presentism =<sub>df</sub> only items existing in the present exist.
  - Dinosaurs *did* exist, but do not; colonies on the moon *will* exist (let us say), but do not

# Two 4-D Approaches

- ✦ Eternalism
  - ✦ All past, present, and future objects exist
- ✦ Growing Block
  - ✦ Past and present objects exist, but future objects do not



# Arguments for 4-D

- ✦ An Argument from Temporal Passage
- ✦ An Argument from Truth-Makers

# An Argument from Temporal Passage

- The Problem of Temporary Intrinsic Generalised:

(1) Suppose a present event  $e$  now, at  $t_1$ , has the property of *being present*.

(2) If later, at  $t_2$ ,  $e$  does not exist, then  $e$  no longer has the property of *being present* (for it does not exist and so has no properties at all).

(3) If (1) and (2), then,  $e$  both has and lacks the property *being present*.

(4) LL

(5) So, not-(1).

- (3) seems to rely on an assumption of tenseless time ( $\mathbb{T}$ ): for any  $x$  and any  $\phi$ , if  $x$  is, was, or will be  $\phi$ , then  $x$  is  $\phi$ .

# An Argument from Truth-Makers

- (1) Every truth has a truth-maker (TM).
- (2) If presentism is true, then the world does not contain past or future objects.
- (3) If the world does not contain past or future objects, then there are no truth-makers for past-tensed or future-tensed propositions.
- (4) So, no future- or past-tensed statement is true.
- (5) At least some future- or past-tensed statements are true.
- (6) So, either presentism is false or TM is false.
- (7) So presentism is false.

# Initial Concerns about 4-D

- ✦ Seems to require mereological essentialism; yet some objects are modally ductile
  - ✦ Possibly I might have moved to Vienna; but this ST region could not have done so
- ✦ Seems categorially unsuitable
  - ✦ Cora is currently practicing the violin; this ST region does not seem to be a practicer.

# Motivating 3-D

- ✦ Suppose we drop *uniqueness*, but retain *pointiness* and *universality*
- ✦ Then, everything is made up of ST points, and every set of ST points makes up something
- ✦ But it becomes possible for two objects to occupy the same ST region

# Two Immediate Benefits

- ✦ The worry about mereological essentialism disappears
  - ✦ JFK might have lived longer
- ✦ The worry about categorial suitability disappears
  - ✦ We are not constrained to say, e.g. ‘The region practiced well today’, since the girl occupying the region need not be identical with the points constituting it.
  - ✦ A statue might be essentially neo-classical in style, even though the clay is nothing of the sort.

# Being Wholly Present (1)

- Space and time seem disanalogous, at least in these respects:
  - I am *currently*, now spread out in space; all of my spatial parts exist currently, now
  - My past and future parts do not currently exist, now
  - I am no more temporally extended than I am modally extended; my extension is spatial only

# Being Wholly Present (2)

- Let us take Lewis' comparison to universals seriously:
  - $S$  is wholly present at  $t_1 \dots t_n$  *iff* (i)  $S$  is present at  $t_1 \dots t_n$ ; (ii) no part of  $S$  is present at any time which is not also present at any other time; and (iii)  $S$  is always *essentially*  $S$