Paradoxes of Growth and Diminution
January 24, 2001

1. Recapitulation

Any trio of sentences of the following form is inconsistent:

1a There is something that Fs and Gs
1b There is something that Fs and doesn't G
1c There is at most one thing that Fs

The original statue/lump paradox is of this form:

2a   There is something that occupies R at 11 am and exists at 9 am
2b   There is something that occupies R at 11 am and doesn't exist at 9 am
2c   There is at most one thing that occupies R at 11 am

We can provide plausible arguments for 2a and 2b, as follows:

3a There is a lump of clay that occupies R at 11 am
3b If there is a lump of clay that occupies R at 11 am, it exists at 9 am

4a There is a statue that occupies R at 11 am
4b If there is a statue that occupies R at 11 am, then it doesn't exist at 9 am

2c, 3a, 3b, 4a and 4b are jointly inconsistent.

2. Paradoxes of growth and diminution

The scenario: before us, at 3 pm, we have a one-armed statue occupying region R . There has not always been a one-armed statue, however; things got to be the way they now are when I ripped off and cast into the flames the left arm of the two-armed statue that was standing here an hour ago. Soon I will repent, and repair the statue using fresh clay.

5a. There is something that occupies R at 3 pm and includes an arm at 2 pm
5b. There is something that occupies R at 3 pm, and doesn't include an arm at 2 pm
5c. There is at most one thing that occupies R at 3 p,.

We can back up 5a and 5b with subsidiary arguments:

6a. There is a statue that occupies R at 3 pm
6b. If there is a statue that occupies R at 3 pm, it includes an arm at 2 pm

7a. There is a lump of clay that occupies R at 3 pm
7b. If there is a lump of clay that occupies R at 3 pm, it doesn't include an arm at 2 pm

We can also argue for 5b in a different way. Let R be a subregion of the region of space that is full of clay at 2 pm, which includes all of the clay except for the left arm.

8a. There is something that occupies R at 2 pm
8b. If there is something that occupies R at 2 pm, it occupies R at 3 pm

8a seems plausible: intuitively, R at 2 pm contains a big part of a statue. 8b also seems plausible: all that has happened to the thing in question is the destruction of some clay that used to be adjacent to it. A nice thing about this new argument for 5b is that it is more readily generalised to other cases than the old one.

3. Descartes and D-minus

Van Inwagen's story of Descartes is an example.

9a. There is something—Descartes—that occupies the same space as Descartes after t and includes a left leg before t
9b. There is something—D-minus—that occupies all the space that Descartes occupies before t, except for the subregion occupied by his left leg
9c. If there is anything that occupies that region of space before t, it occupies exactly the same space as Descartes after t
9d. There is at most one thing that occupies the same space as Descartes after t

Van Inwagen argues from 9a, 9c and 9d to the denial of 9b. He claims that he simply does not understand how 9c or 9d could be false. And he thinks it is evident that Descartes and other people sometimes gain and lose parts.

4. The transitivity of identity

5. DAUP and MNE

The Doctrine of Arbitrary Undetached Parts is stated on p.191. Van Inwagen's conclusion that DAUP is false follows from his conclusion that 9b is false. He also gives a more abstract argument against DAUP:

10a. O includes P at t and does not include P or any replacement part at t'. (Assumption)
10b. There is an object (O-minus) that at t occupies all the space occupied by O, except for the subregion occupied by P (from DAUP).
10c. If there is an object that occupies that region of space at t, then it occupies the same region as O at t .
10d. Two objects never occupy the same region of space at the same time.

Since these four sentences are inconsistent, and since 10c and 10d are true, DAUP and 10a cannot both be true. Hence if DAUP is true, it never happens that an object O has a part at one time that it doesn't have—or have any replacement for—at another time. In other words, the doctrine of Mereological Near-Essentialism (stated on p.192) is true.

Van Inwagen then argues that Mereological Near-Essentialism is false, on the grounds that there are certain things that do sometimes survive the loss of parts, namely people.

6. Chisholm's and Lewis's objections