

Plenitude, Coincidence, and Humility

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Start with a familiar example:

If the potter were to take issue with the size of the mouth of the vase, or the width of the bottom, she could make a number of changes without thereby destroying the vase. But if she were instead to squash it completely the vase would be destroyed, although the lump of clay that made it up would survive.

Pluralists say that the vase and clay are distinct. Although they share a lot of their properties, they differ in which of those properties they have *essentially* and *accidentally*. That is: they coincide, but have different “modal profiles”.

Plenitude goes even further. According to plenitude “*there’s an object for every consistent modal profile.*” Different ways of filling out this slogan all aim to capture the idea that modal variation between coincident objects is “*maxed out*”.

I also think: that’s *all* that plenitude commits us to. Plenitude says that there are coincident objects corresponding to every consistent pattern of essential and accidental properties, but says nothing about *which* patterns those might be. This is **humility**.

Fairchild (2019)’s *Global Plenitude* turns out not to be very humble at all. It requires:

Necessary Coincidence Necessarily, if x and y coincide, then necessarily if x and y both exist, they coincide.

Plan for the talk:

- Introduce varieties of plenitude and describe some of the background aspirations
- Describe and diagnose the problem for Global Plenitude (!)
- A detour: a plenitudinous world with Necessary Coincidence (?)
- A better version of plenitude (!)
- A choice point: nontrivial essences, humility, and modesty (?)

1 Plenitude

1.1 Approaches and Ambitions

Compare two approaches: the *essentialist* approach and the *path* approach.

Path Plenitude. For every function f from worlds to individuals in those worlds, there’s an object whose coincidence path is described by f .

Where f describes o 's coincidence path *iff* o coincides with $f(w)$ wherever f is defined, and doesn't exist otherwise.

Bennett (2004: 354) illustrates the essentialist approach:

“The story is really very simple. It is this: every region of spacetime that contains an object at all contains a distinct object for every possible way of distributing ‘essential’ and ‘accidental’ over the non-sortalish properties actually instantiated there. Each spatio-temporal region is, as my Australian friends would say, *chocka*.”

Template

“Non-sortalish” is hard; we can focus instead on *neutral* properties:

A property F is **neutral** iff necessarily, for all x and y , if x and y coincide, Fx iff Fy .

Two more definitions:

A modal profile M **based on** o is a partition of o 's neutral properties at w into subsets E and A .

An object o **has a modal profile** M iff o has every property in E essentially and every property in A accidentally.

And so finally we can write out a template in the essentialist style:

Template. Necessarily, for any object o and any good modal profile M based on o , there is something coincident with o that has M .

Instances of **Template** will specify how we understand the placeholder ‘good’ – and of course we’re going to need *some* minimal consistency constraint. (We’ll come back to this.)

Also notice – some instances of **Template** don’t seem deserving of the label ‘plenitude’. Eg. Bennett’s ‘plenitudinous two-thinger’, who says that the only good modal profiles are the ones that correspond to the sorts of things we ordinarily recognize.

We’ve got two (very hazy!) ambitions in the background.

- True plenitude requires a background metaphysics where the world imposes only **modest** constraints on *what there is*. Plenitude is constrained *only* by what patterns of neutral properties are possible, in some minimal sense.
- Plenitude is **humble**, and itself says nothing about which patterns of neutral properties are possible.

Taken together, the idea is that the best version of plenitude says *nothing more or less* than that the world maxes out modal variation between coincident objects.

Quick Sidebar... Our interest in capturing the pure ‘max out’ idea is more general than plenitude; consider attempts to make sense of *maximalism* (“Everything that can exist, does exist”). There, too, we’re trying to describe a humble principle that captures a commitment to a modest metaphysics — part of the attraction of maximalism is the promise that it will do both.

With plenitude, there’s a kind of tension here. I won’t resolve it, but will try to illuminate the directions we’re pulled in.

1.2 Global Plenitude

Where S is the set of some o ’s neutral properties and M is a profile $\langle E, A \rangle$ based on o , we need at least:

Closure. For any subset F of S and any property G in S , if F necessarily entails G , then if every property in F is in E , G is in E .

But this isn’t quite enough. Consider Whimsy:

Whimsy. Whimsy has a blue part (Bluesy) and a green part (Greenie). Whimsy is not a perfectly fragile object; it can survive some things being otherwise. But had anything been otherwise, Whimsy would have been entirely green.

Although it is possible for something to have the property *overlapping Whimsy* while lacking the property *being green* (witness; Bluesy), nothing that actually coincides with Greenie could have a modal profile according to which it essentially overlaps Whimsy and is only *accidentally* green.

This motivates a world-relative notion of ‘goodness’, which Fairchild (2019) claimed can be captured by means of a *non-local* closure condition. Informally, non-local entailment at w is just like necessary entailment, except that we restrict our attention to every world except w . Officially:

It is *otherworldly necessary* that P at w iff at all worlds distinct from w , P .

Then:

A set F of properties *nonlocally entails* G at w iff it is otherworldly necessary at w that for all x , if x has every property in F , then Gx .

Global Plenitude

The characteristic feature of Global Plenitude is closure under nonlocal entailment. Where again S is the set of o 's neutral properties and M is a profile $\langle E, A \rangle$ based on o , that is:

Nonlocal Closure. For any subset F of S and any property G in S , if F nonlocally entails G at w , then if every property in F is in E , G is in E .

Global Plenitude also includes:

Essence Closure. If F necessarily entails being *essentially* F , F is in E .

And so, finally:

Global Plenitude. Necessarily, for any object o and any modal profile M based on o such that M satisfies Nonlocal Closure and Essence Closure, there is something coincident with o that has M .

2 A Problem, A Detour, A Fix

2.1 A Problem

Global Plenitude is incompatible with the possibility of contingent coincidence.

Where w_0 is a world, W_0 will name the property *being such that w_0 obtains*.

Oh No

Suppose that a and b coincide at w_0 , but fail to coincide at some other world w_1 . Let H be the following property:

H : *coinciding with a or (coinciding with b and W_1)*

Consider the following profile based on a at w_0 :

E : all neutral properties entailed by H

A : all other neutral properties of a at w_0

This profile satisfies both Nonlocal and Essence Closure at w_0 . So, Global Plenitude tells us that there's some x that has every property in A accidentally at w_0 . But among the properties in A are:

F : *not (coinciding with a and W_1)*

G : *not (coinciding with b and W_1)*

Each should therefore be a property that x possibly lacks. So, x coincides with a at w_1 and coincides with b at w_1 . But this contradicts the starting assumption: that a and b don't coincide at w_1 .

So, Global Plenitude requires **Necessary Coincidence**.

In fact, Global Plenitude is going to run in to trouble *whenever* there is a profile $\langle E, A \rangle$ that is nonlocally closed at w , but which has subsets F, G , such that (i) it is otherworldly possible for something to be E and F and not G , and for something to be E and G and not F , but (ii) there’s only one such world.

Global Plenitude isn’t completely broken, it just isn’t *humble*.

This raises another question: is it still *plenitudinous*? Is there any sense in which Global Plenitude – requiring, as it does, Necessary Coincidence – lives up to the ‘max out’ ambition?

2.2 A Detour: Host Plenitude

Necessary Coincidence disallows cases where two things coincide but possibly both exist while failing to coincide. It *doesn’t* disallow coincident things that might “outlive” each other. Eg.

“[Aristotle’s] kooky objects are items such as sitting-Socrates and musical-Corsicus — items that share the essential properties of Socrates and Corsicus, except that they are also respectively essentially sitting and essentially musical. When Socrates is seated, why does this further entity sitting-Socrates not come in to existence — only to be destroyed when Socrates stands? Of course common sense doesn’t recognize such entities, but common sense need not be a good guide to the whole extent of ontology.” (Leslie 2011: 278)

So, it allows an abundance of “refinements” (Yablo 1987:302). In our terms:

x refines y iff y ’s essential neutral properties are a subset of x ’s essential neutral properties.

We can construct a recognizably plenitudinous picture with **Necessary Coincidence**, where everything is either a ‘host’ or a *refinement* of a host. Hosts obey:

Host Coincidence. Necessarily, for any hosts x and y , if x and y coincide, then necessarily if x and y both exist, they coincide.

Anything that refines a host will essentially coincide with it, and so hosts set the ‘outer limits’ for coincidence. Add to this the plenitudinous idea that the world is ‘full up’ on refinements:

Host Plenitude. Necessarily, for any host x and property F , there exists a refinement y of x such that necessarily, y is coincident with x iff x has F .

(For clarity, departing from **Template** – inspired by Dorr et al (2022) and Yablo (1987).)

As advertised, coincident things differ as widely as possible. Every region is *chocka*. What falls short? The background metaphysics.

Related:

“The problem is that the principle adopted by the two-thinger still leaves us with an unanswered question — why exactly are so few modal profiles metaphysically possible? (...) There may no longer be an interesting question about which of the possible modal profiles are instantiated, but there is surely still an interesting question about *which the possible modal profiles are*. Note that the plenitudinous bazillion-thinger does not really face this question, he thinks that all of the consistent ones are possible.” (Bennett 2004: 357)

I think we can do a little better.

2.3 A Fix: Better Plenitude

Better Plenitude drops fancy closure conditions on E in favor of a new condition on A:

Better Plenitude

Better Plenitude. Necessarily, for any object o and any *good* modal profile M based on o , there is something coincident with o which has M .

Where a profile M is **good** iff M is a partition of o 's neutral properties into $\langle E, A \rangle$ such that

- (1) E is closed under necessary entailment (ie. **Closure**) and
- (2) A is **disjointly free** at w

And where A is **disjointly free** at w iff there exists a set P of partitions of o 's neutral properties into $\langle E', A' \rangle$ such that

- (i) each E' contains E .
- (ii) The union of $A', A'', A''...$ is A
- (iii) There's an injection $i: P \rightarrow W \setminus \{w\}$ which sends every $\langle E', A' \rangle$ to a world containing an object that has every property in E' and lacks every property in A' .

That's a lot: the three conditions guarantee that possibility is varied enough to realize the modal profile in question. The first ensures that the essential properties are preserved, the second that all of the accidental properties are accounted for, and the third that we never have to 'double-count' worlds.

Also, some excellent news: it looks like we can show that Better Plenitude is equivalent to Path Plenitude. That is:

Path Plenitude. For every function f from worlds to individuals in those worlds, there’s an object whose coincidence path is described by f .

Where f describes o ’s coincidence path *iff* o coincides with $f(w)$ wherever f is defined, and doesn’t exist otherwise.

Argument Outline for the Extra Curious

If Path then Better. We want to show that given something for every path, we have something for every good profile. So, for every o, w , we’ll first associate every good profile M based on o at w with a path function such that $f(w) = o$. Once we have a general recipe for associating every good profile M with some path function f , we’ll show that if there is some u described by f , then u coincides with o and has M at w . And given Path Plenitude, every path describes something. So, given Path Plenitude, for every good profile M , there will be something with M .

If Better then Path. We want to show that given something for every good profile, we have something for every path. We show that for every path function f such that $f(w) = o$, we can construct a good profile M based on o at w , such that if anything has M , it has a coincidence path described by f . This is the trickiest bit, but having shown it, the conclusion follows as before. Given Better Plenitude, every such M is had by something. So, given Better Plenitude, for every path function f , there’s something with a coincidence path described by f .

3 Better Plenitude, Essence Closure, and Humility

Unlike its predecessor, Better Plenitude drops the **Essence Closure** condition. Again, that is:

Essence Closure. If F necessarily entails being *essentially F*, F is in E .

Our usual entailment closure condition on E already handles neutral properties that are necessarily had by everything (let’s say: trivial properties). What Essence Closure would add is an allowance for non-trivial neutral properties which are nonetheless had essentially if they’re had at all.

Eg. suppose that its possible that not everything has a location, but that *being located* is a neutral property. Then Better Plenitude is incompatible with:

Location. Necessarily, if something is located, it is essentially located.

Location is just an example: Better Plenitude is incompatible with “*nontrivial essences*”.

Put another way, Better Plenitude guarantees:

Accident. If F is a neutral property such that possibly something is F and possibly something is not F , then possibly something is accidentally F .

And here finally we have a huge choice-point. Better Plenitude with Essence Closure is more *humble* than Better Plenitude alone, but Essence Closure sits poorly with a commitment to a *modest* background metaphysics. On the other hand, Better Plenitude alone does a better job of capturing the rest of the plenitude-lover's worldview.

4 Wrap Up

Phew.

I still don't know what to say about *humility* and *modesty*. But I've tried to illuminate the tension, and meanwhile to make some progress understanding plenitude:

- We looked at a challenge for Global Plenitude. There was specific worry there (about the contingency of coincidence) but I've diagnosed it as a more general structural challenge.
- The *specific* worry prompted an exploration of a version of plenitude that denies the contingency of coincidence. That's a view that doesn't seem very plenitudinous at first, but I've gently suggested that there's more going for it than we might have thought.
- When we look instead at the *structural* challenge for Global Plenitude, it points towards a better version of plenitude (Better Plenitude) which (yay!) turns out to be equivalent to a version of Path Plenitude.
- All of that together set us up to look more closely at *what to do about Essence Closure*. Essence Closure plays a role in the specific worry but not so much in the structural challenge, and then turns out to really matter for how we think about humility and modesty.

Thank you!