On the idea of there being something of everything in everything

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Notoriously, the Presocratic philosopher Anaxagoras maintained that there is something of everything in everything. 'All things have a portion of everything', he wrote (B6).[1] He supplied an important qualification when he also said this: 'In everything there is a portion of everything except mind, but mind is in some things, too' (B11). So maybe his idea was that in every portion of *material* stuff there is always something of every other sort of *material* stuff.

As if that startling claim were not baffling enough, Anaxagoras added, perhaps thinking to reassure us, that 'each single thing is and was most plainly those things of which it contains most' (B12). But now, instead of being helped to find his view more intelligible, we seem to have crossed the line from mere enigma to outright incoherence. For consider: My watch chain is 'most plainly' gold if, and only if, my watch chain contains more pure gold than anything else it contains. But, if there is no such thing as pure gold, my watch chain will not contain more of that than anything else, there being no such thing as that.

'You can always imagine that there is such a thing as pure gold,' someone might say, trying to help Anaxagoras out. But I'm not sure Anaxagoras would have accepted the help. It wasn't that he thought all things are hopelessly mixed up just as a matter of chance circumstance. His thought seems to have been that things are in each other this way by nature. Thus, even if it were conceivable that one could refine gold to utter purity, that conceivability would tell us nothing about our real world; in particular, it would tell us nothing about my watch chain.

One might think to solve this problem by speaking simply of what is mostly gold, or mostly blood, or whatever. Then one could perhaps admit that the portion of blood in a vial of liquid that makes the whole quantity of liquid mostly blood is itself only mostly blood. Moreover, what makes the contained portion mostly blood is some sub-portion that is also only mostly blood, and so on *ad infinitum*.

The first difficulty with such a solution is this. What is only mostly (mostly (mostly … blood …)) will not be guaranteed to be mostly blood. Certainly what is 0.6 (0.6 (0.6 … blood …)) will not be mostly blood.

There is, however, an even more basic difficulty. It is certainly coherent to speak of the liquid in a given vial as being mostly blood if one can as-

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[1] Fragments are identified according to the system used in Diels and Krantz 1972. The translations are taken from McKirihan 1994: 196–99.

sume that there is some ratio between the total volume of liquid in the vial and the volume of pure blood it contains – even if one does not know exactly what that ratio is. But if there is no such thing as the ratio between total volume and volume of contained pure blood – and this is the picture Anaxagoras gives us – then the idea of the total volume's being mostly blood seems incoherent.

So is there any way to make sense of Anaxagoras? Can we coherently think that every portion of material stuff contains something of every other material stuff and also say, coherently, what a given quantity of stuff 'most plainly is' by reference to what it contains *most of*?

I think there is. I propose an *operational* way of understanding these two claims of Anaxagoras:

(1) There is a portion of everything in everything.
(2) Each thing is most plainly that of which it contains the largest portion.

Now here is the problem we want to solve:

Ratio Problem: Suppose a given portion of stuff is 'most plainly blood' because it contains four times as much blood as bone, bone being the second most prominent ingredient [application of (2)]. Still, the portion of blood it contains will also contain everything, and so will the portion of bone it contains [application of (1)]. How then can there be a specifiable ratio between the whole and its ingredients, when the ingredients also contain everything?

For our operational solution we will need these technical terms:

x is *dominantly g* $=_{df}$ x can be *perceived to have* the configuration of qualities essential to something's being *g*.

x is *recessively g* $=_{df}$ some product of the recursive separation of x into its constituent products, or some dross from its refinement, would be dominantly *g*.

And we will need these principles:

Principle of Separation: For each portion of stuff that is dominantly *g*, there is a Separation Process by which this portion can be separated into constituent portions that are, say, dominantly *h* and dominantly *j* respectively (example: milk can be churned into butter and buttermilk). The original stuff that was dominantly *g* will thereby be shown to have been recessively *h* and *j*.

Principle of Refinement: For each portion of stuff that is dominantly *g*, there is a Refinement Process by which this portion of stuff can be refined by removing from it a parcel of stuff that is non-*g* (example: gold can be refined, leaving dross).

Principle of Recursive Separation: Each product of a Separation Process can be further separated into further constituents, ad infinitum.

Principle of Recursive Refinement: Each refined product can be further refined by an additional Refinement Process (although each additional Refinement Process may have to be either more intense or last longer, or both, to produce additional dross, and the additional dross produced may be progressively smaller and smaller in amount, approaching, but never actually reaching, zero.

Solution to the Ratio Problem: The largest amount of stuff in a given portion of stuff is *not* the largest amount of pure stuff in it, by comparison with the amounts of other pure stuffs it contains. There is no 'pure stuff', since everything contains a portion of everything.

Anaxagoras must suppose that successive refinements of a bar of gold will never yield more dross than gold. The ratio of gold to non-gold in the original bar will then be the ratio of

(a) the amount of refined gold (no doubt measured by weight) toward which successive refinements converge as a limit,[2] compared with

(b) the amount of dross toward which successive refinements converge as a limit.

Of course, the constituents of any given portion of stuff are revealed not only by refinement but also by separation. Thus a litre of whole milk may be 'refined' by just letting it sit in an appropriately shaped bottle, so that the cream comes to the top. The original litre is dominantly milk by having the qualities of milk because it is, let's say, ten parts milk to only roughly three parts cream. But the milk may also be separated by churning it into butter and buttermilk, neither of which is dominant in the original litre of milk.

There might seem to be a problem here for Anaxagoras. Suppose that churning the litre of milk yields more butter, by weight, than buttermilk. Shouldn't the original litre of milk then be, contrary to appearances, dominantly butter, since it is more of that than non-butter?

Anaxagoras should answer that the original litre of milk is more milk than butter because even successive refinements of the milk still leave us with more milk than separation can yield butter. Thus the original litre is 'most plainly' milk because successive refinements always leave us with more milk than anything else it contains.

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[2] The idea of a convergent series approaching, but never actually reaching, a limit is, I take it, in general harmony with the thought of Anaxagoras. He wrote, 'For of the small there is no smallest, but always a smaller' (B3).

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