



Algebraic Generalism: Some Comments

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We seem to have an intuitive grasp on the idea that some metaphysical items – be they properties, states of affairs or truths and parts of reality however conceived – involve the identity of some entities in particular. As opposed to these, it seems, there are features of the metaphysical realm that might as well be characterized merely in terms of their qualitative profile. They may concern some entities, but they do so only insofar as those entities fulfil a given qualitative description; were there to be perfect duplicates of an entity, items of the latter kind would concern (if at all) any one of that entity's duplicates. Call the first class of items, collectively, "the non-qualitative"; call the latter, collectively, "the qualitative". A number of worries and quarrels have focused on this distinction and, in particular, on the status of the non-qualitative. Some of the relevant worries are genuinely, and possibly solely, modal: they typically constitute part of the debate about Haecceitism. Some, however, seem to go beyond a merely modal dispute, and lead us to wonder about which (if any) among the qualitative and the non-qualitative is metaphysically prior. Both (families of) debates have a classical reference in Robert Adams's inquiry as to whether "the world – and (...) all possible worlds – [are] constituted by purely qualitative facts, or (...) thisness hold[s] a place beside suchness as a fundamental feature of reality" (henceforth, "Adams's question").¹

However – as far as I know – Shamik Dasgupta was the first to cast the latter dispute (i.e., the one that goes beyond modal issues and explicitly asks about metaphysical priority ones) in terms of the ever so hotly debated theory of grounding. In recent papers, he has very effectively defended a view according to

¹Adams, (1979, p. 5). The notion of a "thisness", as conceived by Adams, is cognate to that of a *haecceitas*, historically attributed to Duns Scotus – though, for several reasons, the two cannot be plainly identified. A thisness of a given entity *a* would be the property of *being a* – or, which is the same, of *being identical with a*. For the sake of our present aims, we may just read "the non-qualitative" where Adams writes "thisness" in the passage I quoted, and "the qualitative" where he writes "suchness" – though a thorough justification of this construal of mine lies beyond the scope of this review.

which – roughly – every constituent of reality is either qualitative or grounded in the qualitative. In this critical essay, I will present and briefly comment Dasgupta's proposal.

In line with many theorists of the concept, Dasgupta takes grounding to be an explanatory notion of a particular (non-causal) kind – the one that is supposed to convey the "*in virtue of*"-relation. Claiming that a fact is grounded in some other fact is to claim that the former obtains in virtue of the latter's obtaining – or, that the latter obtaining makes it the case that the former obtains. Dasgupta assumes two necessary conditions for grounding to hold:

- a. Necessitation. "[T]he grounded is metaphysically necessitated by its grounds".²
- b. Whole relevance. "[A]ll parts of an explanation must be explanatorily relevant: if the *X*s ground the *Y*s and *x* is one of the *X*s, then *x* is *explanatorily relevant* to the *Y*s in the sense that *x* plays at least some role in making it the case that the *Y*s obtain".³

Necessitation and Whole Relevance play a crucial role in an argument that leads Dasgupta to take a deeply revisionary stance concerning ground; I will show this point in due course.

By Dasgupta's own lights, there are two families of answers to Adams's question – when the latter is construed in terms of grounding. One may be an Individualist, and claim that all fundamental facts are individualistic, while qualitative facts are grounded thereof. Or, one may hold that all fundamental facts are qualitative instead, and that individualistic facts are grounded thereof – hence qualifying as a Qualitativist. Dasgupta does not provide a thoroughly unambiguous definition of the distinction between facts that are individualistic and facts that are not (henceforth, the "individualistic distinction"); however, he does give several hints towards the notion he has in mind:

"On this view [i.e., Individualism] the most basic, irreducible facts about our world include facts about what individuals there are and how they are propertied and related to one another, such as

$$a \text{ is } F, b \text{ is } G, a \text{ bears } R \text{ to } b$$

where *a* and *b* are individuals, or "primitive individuals" as I will call them to underline their status on this view".⁴

"[R]oughly speaking a fact is individualistic iff whether it obtains depends on how things stand with a particular individual (or individuals) and qualitative otherwise."⁵

²Dasgupta, (2014, p. 4)

³Dasgupta, (2014, p. 4)

⁴Dasgupta, (2009, p. 36)

⁵Dasgupta, (2014, p. 5)

"[A fact] F is individualistic iff there is an x (or there are some X s) such that whether F obtains depends on how things stand with x (or with the X s)".⁶

Dasgupta does not advance a clear-cut definition of what an *individual* is, in turn: he takes it to be enough for his aims that we think of individuals as "what in ordinary English we call 'things' – apples, alligators, atoms, and so on".⁷

Very roughly, we may think of qualitative facts as those facts that can be expressed in first order logic with identity but without constants; in order to express an individualistic fact, instead, we would need to refer to at least one individual in particular (not merely "to the thing that is so-and-so, whichever it may be") – hence resorting to individual constants.⁸ Intuitively – and to mention an example that is provided by Dasgupta himself – the fact that *Obama is the president* counts as individualistic, while the fact that *Someone is the president* is a qualitative one.

As I said, Dasgupta seems to assume that, faced with Adams's question, one may either take a qualitativist or an individualistic stance – under his own understanding of the two views. However, other alternatives seem to be available. In particular, one may simply aim to reject Qualitativism, hence claiming that at least some individualistic facts are not grounded in qualitative facts. Taking this stance would be a way to accept the second horn of Adams's question in the way that Adams himself seems to understand it. For it would amount to claiming that the non-qualitative does hold a place at the fundamental level of reality – without adding anything as to whether or not the purely qualitative contributes to the fundamental level as well. I will not focus on this point here, though. In effect, Dasgupta's main purpose in the articles I am considering is to develop and defend a form of Qualitativism he calls "Algebraic Generalism": his strategy to that end does not really hinge on the definition of "Individualism" he accepts.

Dasgupta thinks that we should accept Qualitativism (in particular, Generalism) because "if individualism were true then the individualistic facts of our world would lie beyond our epistemic ken. (...) [O]ur knowledge of the world is limited to knowledge of its qualitative nature and whatever is grounded in that qualitative nature, and since individualism implies that there are further facts of the matter as to which particular individuals lie behind those qualities it follows that those facts would be unknowable".⁹ In other words, the individualist takes there to be some facts that are neither qualitative nor grounded in the qualitative – and according to Dasgupta such facts are beyond the limits of our knowledge. Still in other terms, those individualistic facts that are not grounded in qualitative facts would be such that the individuals they are about qualify as

⁶Dasgupta, (forth. fn.2)

⁷Dasgupta, (2014, p. 5)

⁸See Dasgupta, (2009, p. 40); Dasgupta, (2014, pp. 5-6); Dasgupta, (forth. P. 2)

⁹Dasgupta, (forth. P. 6)



"primitive individuals". And, according to Dasgupta, it follows from any physical theory from Newton to this day that primitive individuals are "danglers": they are "physically redundant and empirically undetectable".¹⁰ More precisely, Dasgupta's "argument from danglers", as I will call it, goes as follows:

- (1) First premise. "It is a consequence of every physical theory considered over the past 400 years that primitive individuals are danglers";¹¹
- (2) Second premise. "Consider two theories about the structure of the material world, and suppose you discover that the first implies that the world contains a dangler while the other does not. All else being equal, it is rational for you to prefer the latter over the former";¹²
- (3) Conclusion. "The benefit that generalism enjoys over individualism in virtue of dispensing with danglers outweighs its putative costs".¹³

Dasgupta's case for (1) is given through an argument by analogy between the status of primitive individuals and the status of absolute velocity in Newtonian Gravitation Theory. In a nutshell, the idea is that physical theories cannot help us detect differences merely as to which individual in particular is involved in a given observation, but only differences in the qualitative – just as they cannot help us detect differences in absolute velocity, but only differences in relative velocities.

With the additional premise that any view that accepts fundamental individualistic facts is committed to primitive individuals¹⁴ the argument from danglers seems to give us a reason for being suspicious about Individualism. In effect, note that even the weaker individualist view that I considered above – the one that merely amounts to a denial of Qualitativism – is committed to the fundamentality of some individualistic facts; hence, it will posit at least some primitive individuals, in Dasgupta's sense. For the defender of such a view will have it that, for at least an individual, there is fact of the matter as to whether or not *it* – as opposed to every other – is involved in some given fact (that is to say, in any fact that qualifies as individualistic by being such that whether or not it obtains depends on how things stand with *that* very individual in particular), and such a fact of the matter cannot be said to rest on any collection of *merely qualitative* considerations.¹⁵ The way I understand the argument from danglers, and several other parts of Dasgupta's dialectic, *this* is the idea behind the (at times

¹⁰Dasgupta, (2009, p. 40). I think that we may wish to define danglers as those entities that are, more in general, *explanatorily* redundant and empirically undetectable; however, Dasgupta's definition does suit his aims in this passage, inasmuch as he focuses on redundancies in *physical theories* in particular.

¹¹Dasgupta, (2009, p. 40)

¹²Dasgupta, (2009, p. 43)

¹³Dasgupta, (2009, p. 57)

¹⁴Dasgupta argues for this point at some length; see for instance Dasgupta, (2009, pp. 45-46).

¹⁵This point alludes, I think, to a further subtlety concerning the individualistic view that seems to

confusing, I suggest) claim that there are (if Individualism is right) "primitive individuals". For there does not seem to be much that characterizes something as a primitive individual, as opposed to an entity that is not, except for the fact that only the former is involved in at least one individualistic fact that is not grounded in qualitative facts. I will say more about this point in due course.

For now, note that the argument from danglers, the way Dasgupta phrases it, seems to do more than just single out an epistemic vice intrinsic to Individualism: Dasgupta takes it to support a particular form of Qualitativism that he calls "Generalism".

A generalist view – as opposed to some forms of Qualitativism such as the bundle theory – does not even attempt to give a story about how *individuals* can be said to consist in other, purely qualitative, items. It just focuses on the facts that can be said to build up the fundamental level of reality – that is, given the qualitativist *dictum*, only qualitative ones – and on how they should be properly characterized. The view that Dasgupta labels "Quantifier Generalism" provides a first suggestion in this sense: the idea is that the fundamental facts are all and only those facts that can be expressed in first-order logic with identity but without constants. Consider the infamous case of a "Black's world": nothing exists in such a world but two qualitatively indiscernible spheres. The bundle theorist is still committed to what may be seen, in Dasgupta's spirit, as a sort of "original sin": she aims to build up individuals out of qualities. Faced with Black's world, she will have no choice but to recognize a sole individual that is built out of a certain collection of compresent qualities (for the same collection lies behind the "two" spheres) – hence accepting a substantive version of the identity of indiscernibles (henceforth, PII). However, the quantifier generalist can just embed the idea that there are two spheres in her own description of Black's world – the latter will be something like:

$$(Q.G.) \exists x \exists y (x \neq y \wedge Fx \wedge Fy \wedge Hxy)$$

where "F" conveys a complete qualitative description of each sphere, and "H" expresses the relation of being at, say, nine metres from one another.¹⁶ And since the description mentions only what the quantifier generalist takes to be qualitative facts, she can claim that her account is indeed a qualitativist one.

However, according to Dasgupta this suggestion does not go far enough in getting rid of primitive individuals. For not only we naturally take quantified expressions to range on a domain of individuals, and may doubt that a satisfying

lie beyond Dasgupta's own aims: one may indeed wish to deny Qualitativism, and still hold that no individualistic fact is fundamental, as long as none of them is grounded in qualitative facts, but only in other individualistic ones. Developing in detail and defending such an idea, though, would lead one to deny that grounding is a strict partial order – either by rejecting the transitivity of ground, or by negating there to be any fundamental level. I will not further focus on this point here.

¹⁶See Dasgupta, (2009, pp. 49-50); Dasgupta, (2014); Dasgupta, (forth. P. 7).

alternative understanding is available;¹⁷ it may also well be (and many do believe) that quantified facts are grounded in their instances. If this were the case, then any fact that can be expressed as "there is a sphere" would be grounded on the fact that a certain sphere in particular exists – hence, *contra* the quantifier generalist, no such fact would be fundamental.¹⁸ Moreover, at least intuitively, if the qualitative facts are to be understood in terms of a domain of individuals, or even worse if they are grounded in their instances – i.e., in facts concerning at least one given individual in particular – it is not so clear how (if at all) one can claim that such facts constitute the fundamental level of reality without committing to the idea that the world must be accounted for in terms of some primitive individuals after all.

Nothing like this happens with Algebraic Generalism – i.e., with the form of Qualitativism that Dasgupta aims to defend. According to Algebraic Generalism, nothing exists at the fundamental level but a domain of *n*-adic properties; these are arranged in a certain structure that can be described *via* formulas of a particular language *G* that well suits the Generalist's metaphysics. Dasgupta draws the relevant formal language from Quine's *Algebraic Logic and Predicate Functors*.¹⁹ Very roughly, the peculiarity of language *G* can be summarized as follows:

- i. it can mimic first-order quantification in a way that does not seem – at least *prima facie* – to bring in problems concerning whether or not one is quantifying on a domain of individuals: since there are no quantifiers, and the element of *G* that mimics them does not take any argument, there is no question as to "what ranges on what", so to say;
- ii. it does not treat properties as predicates but as terms – so there is no question as to whether predicates apply to individuals either;
- iii. all of its syntactic symbols apply to such terms for properties – so that, again, there seems to be no space for a mention of individuals in *G*'s formulas.

Without getting into technical details, I will just show as an example a formula of *G* that the algebraic generalist may use to represent what is going on in Black's world – by mentioning qualitative facts alone:

$$(A.G.) cc(F^1 \wedge pF^1 \wedge \neg I^2) \text{ obtains}$$

(where "F" conveys a complete qualitative description of each sphere – for simplicity, I will assume that such a description captures not only the *intrinsic* qualitative properties of each sphere, but also the relational ones).

¹⁷Cf. Dasgupta, (2009, p. 50).

¹⁸See Dasgupta, (2009, p. 50); Dasgupta, (forth. Pp. 7-8).

¹⁹Quine, (1976)

Very roughly, the formula may be understood as saying something like "the fact that *it F-izes*, and *it F-izes*, and *it numerical-difference-izes* obtains".²⁰ The two "c" at the beginning of the formula stand for as many applications of the "cropping operator": its role is to cancel an argument-place in a given property's adicity. As a result, from an *n*-adic predicate that we would naturally think as applying to *n* individuals we can get to have a term that seems to stand by itself – this seems to confirm that we can describe Black's world through G by assuming properties alone (and without taking the two spheres to be one and the same). Intuitively, an application of the cropping operator in G is, by the same token, what mimics an existential quantification of first-order logic.²¹

I said that, according to Algebraic Generalism, at the fundamental level properties are arranged in a structure that may be described through formulas of G. It may have sounded more natural to say that, through G, we can combine properties in order to construct more complex properties – and, *via* them, qualitative facts. However, I suggest that this would fail to effectively mirror the fundamental reality as conceived by Dasgupta's metaphysics. In effect, according to Dasgupta, the best form of Qualitativism – Algebraic Generalism – naturally goes with both a structuralist and a radically holistic conception of reality. In a nutshell, if one aims to accept Algebraic Generalist without taking an eliminativist stance about individualistic facts, one should accept (Dasgupta says):

- Structuralism about (individuals and) individualistic facts. An account of one individualistic fact is by the same token an account of all of them.²²
- Radical Holism. The world is fundamentally a single whole. At rock bottom, the only fundamental fact is that a single complex state of affairs that characterizes the whole world obtains. Distinct atomic facts may still hold, but they are not fundamental; they obtain in virtue of that sole one fundamental fact.²³

I will not focus on the reasons why Generalism entails Radical Holism here.²⁴

As for Structuralism, the point should be connected to another crucial feature of Dasgupta's metaphysics – in particular, to his conception of grounding for individualistic facts. According to Dasgupta, if Qualitativism is right then the individualistic facts are *plurally and non-distributively* grounded in the qualitative facts: the plurality of the individualistic facts that obtain is, collectively,

²⁰It would feel much more natural to talk about the fact that *there is F-ness*, and *there is F-ness*, and *there is numerical difference*, instead – but this would not fit Dasgupta's aims because, under such a description, that fact would turn out to look like a quantificational one.

²¹Language G plays a crucial role in Dasgupta's theory and I did not make justice to its subtleties at all. For details, see in particular Dasgupta, (2009): "Appendix on language G", and of course Quine, (1976).

²²See Dasgupta, (2014, pp. 10-11).

²³See Dasgupta, (2009, pp. 55-56, 58).

²⁴For Dasgupta's very neat argument to this end, see Dasgupta, (2009, pp. 55-56).

grounded in the plurality of the qualitative facts that obtain, though no individualistic fact, considered by itself, has a qualitative ground of its own. And of course this turns into a *modus ponens* by Dasgupta's lights, for the argument from danglers was supposed to show us that Qualitativism is right indeed. As a consequence, Dasgupta rejects Singularism about ground: according to his view, not only the grounds of a fact, but also what is grounded can be a plurality.²⁵ Roughly, his argument for this move is the following – I will call it "Obama's argument".

Suppose Qualitativism is right. Consider then some individualistic fact, say – in line with Dasgupta's own suggestion – the fact that *Obama exists*; call it *S*. Given Qualitativism, and the mainstream assumption that, although what grounds can be a plurality of facts, what is grounded is always *one* single fact – given, that is, Singularism about ground – we would expect there to be some collection of qualitative facts *Q* that collectively ground *S*. However, remember the two constraints on grounding that Dasgupta does assume: Necessitation and Whole Relevance. According to Dasgupta, nothing short of the collection of all the qualitative facts obtaining at our world – if anything – will be enough to necessitate the fact that Obama exists. Yet even that collection (call it "*Big Q*") will fail to ground *S*. For of course not every part of *Big Q* will be relevant for an explanation of *S* – there are of course qualitative facts about galaxies far far away that would be irrelevant for an explanation of Obama's existence, and yet such facts are, indeed, part of *Big Q*. More in general – so the thought goes – there is no way to save both Necessitation and Whole Relevance if we aim to argue that every individualistic fact is grounded, *by itself*, in some collection of qualitative facts.²⁶

However, there is an easy way out if we accept that grounding can be plural and non-distributive. Consider again *Big Q*. We said that *Big Q* fails to ground *S* because (many) parts of the former are not relevant for an explanation of the latter. This seems to openly contradict the qualitativist *credo*: there are, one would say, individualistic facts that do not have a qualitative ground – *S* is one of them. Yet this is not the whole story. In effect, *S* is a counterexample to Qualitativism only inasmuch as Qualitativism is held together with Singularism about ground – that is, only if one assumes that every individualistic fact must be *by itself* grounded in the qualitative. On the other hand, if what is grounded – and not only what grounds – can be a plurality of facts, accepting that *S* by itself fails to be grounded in the qualitative may pose no deep problem to the qualitativist. Intuitively, what the qualitativist needs to exclude is that some aspects of reality are neither part of *Big Q* nor settled by it, so to speak. Now, consider a further collection of facts: the collection of all the individualistic facts that obtain – call

²⁵See Dasgupta, (2014, pp. 3-4); Dasgupta, (forth. Pp. 10-11).

²⁶See Dasgupta, (2014, pp. 8-11).

it "Big S". As opposed to what happened with S, it is easy to ascribe a qualitative ground to *Big S* without contravening either Necessitation or Whole Relevance: *Big Q* will be said to be such a ground. Every part of *Big Q* will of course be relevant for explaining some part of *Big S*. In fact, intuitively, the two collections may be taken as describing exactly one and the same portion of reality: *Big Q* captures a complete qualitative description of our whole world, while *Big S* captures a complete individualistic one. Moreover, given Qualitativism and given that *every* qualitative feature of our world is part of *Big Q*, every part of reality that is not part of *Big Q* must be grounded in – hence, also necessitated by – it. (It may be relevant to recall that Dasgupta's point here is a conditional one: "if the world is fundamentally qualitative, then the individualistic facts are plurally grounded in the qualitative".²⁷ The reasons for accepting Qualitativism in the first place should be sought elsewhere – according to Dasgupta, in the argument from danglers). Consider now S again. By claiming that *Big Q* grounds *Big S*, the qualitativist does exclude that any part of reality can fail to be either part of *Big Q* or settled by it. For every part of reality that is not part of *Big Q* is part of a plurality that is grounded in *Big Q* – i.e., of *Big S*. Even S is part of *Big S* – hence, its not having a qualitative ground of its own need not pose a problem to the qualitativist *credo*: by being part of a plurality that is grounded in *Big Q*, S itself is, so to say, indirectly settled by *Big Q*.²⁸

It seems, then, that Qualitativism commits one to rejecting Singularism about ground – and the latter move is undeniably controversial. Intuitively (and very roughly), Dasgupta asks us to hold together two ideas that, at least *prima facie*, seem to contradict one another: first, that *all of* the individualistic facts are, taken collectively, grounded in the qualitative, so that no individualistic fact of our world is fundamental; second, that it is not the case that *each* individualistic fact is grounded in the qualitative – call these two claims, together, Plural Qualitative Ground (PQG, for short). As I tried to show above, there is no contradiction in PQG if Singularism is dropped – that is, if one accepts that a plurality of facts may be metaphysically explained although none of those very facts, considered in itself, has a metaphysical explanation of its own.

Now, according to Dasgupta, "claims about the logical form of ground (like Singularism) are highly abstract claims about the nature of explanation, and it is not at all clear why we should take our pre-theoretic opinions about that sort of thing seriously".²⁹ I disagree with this claim – I think that it is quite unavoidable to feel like Dasgupta is *not* properly providing us with an explanation of a certain domain of facts (the individualistic facts), if we cannot point to any single fact of the domain and ask what the relevant explanation for *that* one fact in particular

²⁷Dasgupta, (2014, pp. 2-3).

²⁸More precisely, Dasgupta talks of a sense in which *Big S* "account for" S, by grounding a plurality (the one I am labelling *Big S*) that has S as a logical consequence. See Dasgupta, (2014, p. 11).

²⁹Dasgupta, (2014, p. 13)

is. One may also wish to contend that our reticence to accept PQG does not merely amount to an abstract conviction about the logical form of grounding at all. If there are individualistic facts that do not have any qualitative ground, then all those very facts are as many features of reality that are neither qualitative nor grounded in the qualitative – one would wish to say.

However, it must be noted that trying to pursue this sort of intuitions in order to argue against Dasgupta's view would be to beg the question against his whole strategy. For that move would in effect amount to plainly rejecting the idea that an explanation in general, hence also a metaphysical explanation in particular, may fail to be singular – or at least to contending that an explanation, if plural, must surely be distributive. It would amount to asserting that, if a given domain of facts is explained *as a collection*, then it just cannot be the case that none of the facts that take part in that collection have an explanation of their own. Which would simply be to deny that an explanation might be plural and non-distributive. Perhaps the notion of explanation as plural and non-distributive is deeply problematic – but if one's aim is to argue against a defence of it, then independent reasons should be provided for thus thinking. Still, I find it significant that this sort of intuition – i.e., the intuition that, so to say, there is no explanation without distributive explanation – is so deeply rooted in our natural way to conceive of what an explanation should in general be. And – I shall stress again – our way to conceive of explanation in *general* is largely independent from the theory of grounding – at least insofar as the features of grounding as a highly abstract, formal notion are concerned.

In connection to this, consider Obama's argument again. Dropping Singularism provides a solution insofar as the Qualitativist can claim that, even if no collection of qualitative facts can ground *S*, *S* together with every other obtaining individualistic fact can indeed be said to be grounded in the qualitative: by considering this new individualistic item – the collection that I called *Big S* above – we get to fulfil the Whole Relevance condition. Now, one may wish to protest that this amounts to explaining something completely different from what we had been trying to explain in the first place: we started off trying to metaphysically explain *S*, the fact that Obama exists, and we ended up with an answer to a completely different question – i.e., to the question of what qualitative facts metaphysically explain *Big S*, the whole of the individualistic facts of our world. Yet this consideration, again, cannot be held against Dasgupta on pain of begging the question against him. For his point is exactly that the individualistic facts can be grounded in the qualitative only plurally and non-distributively, and the claim that they *must* be grounded in the qualitative is supposed to be justified by other means – that is, by the argument from danglers. And still, it is hard not to feel like rejecting Singularism lets us solve the problem that Obama's argument presents merely by playing a formal trick – that is, by explaining together

several facts that fail to *belong* together. For instance, we end up explaining together *S* and a number of individualistic facts concerning galaxies far far away that seem to be utterly unrelated to *S*. Perhaps the intuition that this cannot be right should not be trusted. But if this is the case, then one may doubt that we can trust our intuitions as to what is relevant to what, between the grounding and the grounded – given that, when we look at the level of what is grounded alone, anything can be combined with anything in order to let us get the right result. And of course there are passages in Obama's argument that do – at least in part – hinge on intuitions of that sort. In effect, while looking for a plurality of qualitative facts that can be taken as a ground of *S*, Dasgupta remarks that:

"[S]urely what happens in Alpha Centauri plays no role in making it the case that Obama exists. (...) [W]e are asking for a grounding explanation of Obama's existence and it is almost inconceivable that the correct answer could include the goings on outside our solar system".³⁰

We should then reject a view that has it that individualistic facts about Obama are explained by qualitative facts about Alpha Centauri. But if we agree with Dasgupta on this particular point, then we may also find a doctrine that explains individualistic facts about Obama and individualistic facts about Alpha Centauri together – and *only* together – even less desirable. And yet, again, if Dasgupta is right then the individualistic facts are such that they can be metaphysically explained by the qualitative only "all at once" – so to say. If one takes this to be too heavy a theoretical cost (and if Obama's argument is sound, as it does seem to be), then one will presumably have to target the very claim that individualistic facts are grounded in the qualitative. And since the argument from danglers, that is supposed to support the claim, is a *ceteris paribus* one, a good strategy will most likely be that of questioning the idea that, when we compare Individualism and Qualitativism, "all things but the acceptance of primitive individuals are equal". Accepting such danglers as primitive individuals may be a theoretical cost, but it is not yet utterly clear that Structuralism and the consequent loss of Singularism about explanation are much less serious a worry.

As a final remark, I suggest that there may be some problems concerning the individualistic distinction as stated by Dasgupta. As I said, Dasgupta does not provide us with a properly clear-cut distinction between the two alleged categories of facts – although, as I argued above, the very notion of a primitive individual, which substantiates the main rationale for rejecting Individualism, crucially depends upon it. At most, we are given an extensional criterion: all those facts that may be expressed in first order logic with identity but without constants are qualitative, while any other fact is individualistic. Yet importantly,

³⁰Dasgupta, (2014, p. 9)

this cannot be the end of the story by the Generalist's own lights: for, given a widely accepted principle, existentially quantified facts are grounded in their instances and cannot, therefore, be fundamental. Hence Dasgupta's resorting to the algebraic language G. But this move would better be more than just a formal artifice: after all, every sentence of first-order logic without constants but with identity has a translation in G and *vice versa*. Some independent theoretical reason should be given to think that the right description of *the qualitative* is provided by G and not by first order logic. To put it differently: we were told that the facts that can be expressed by a certain language coincide with the qualitative facts, but also that they cannot *be* the qualitative facts, because they are not good candidates for being fundamental. Then we were given a translation of all of those facts, and we were told that in such new clothes those facts can be said to be fundamental. But what makes them qualify as *qualitative* in the first place is still unclear.

On the face of it, it looks like the main *theoretical* hallmark of G concerns the ontological commitment it seems to bring forth: as opposed to their counterparts of first order logic, the sentences of G are thought to mention only qualities, and they do not seem to demand for a domain of individuals at all. Now, given this picture, perhaps the facts that we were brought to identify as qualitative – the facts that can be expressed in G – are eligible to be fundamental indeed. And yet, I shall argue, it is far from clear that by claiming that *they* are the only fundamental facts one does get rid of primitive individuals in the sense that should be relevant for the argument from danglers. Indeed, Dasgupta seems to assume that only facts that involve individuals may give rise to those alleged danglers he calls "primitive individuals" – hence, that if there are no fundamental individuals then there are no primitive individuals (call this "the individuals' assumption"). Coherently with this, he first presents his Generalism as a fundamentally "individual-less view of the material world".³¹ Still coherently with this, he takes it that the qualities that constitute the fundamental level of reality are universals, thereby blocking the way to any kind of nominalistic reduction.³²

Now, I think there are good reasons for thinking that the individuals' assumption is wrong. I also think that once such reasons are duly appreciated, Algebraic Generalism loses much of its appeal.

In order to make this point, let me advance a suggestion as to how we may characterize those entities that the argument from danglers is supposed to target, without helping ourselves to a distinction between facts that is yet to be clear and without appealing to a discrimination between categories of entities that I am trying to prove irrelevant. Suppose the whole qualitative story about the world is given. If and only if there is at least an entity such that some question

³¹Dasgupta, (2009, p. 35)

³²Cf. Dasgupta, (2009, pp. 47-48).

concerning its identity may nonetheless still arise, there is – under the construal I am advancing – one of those entities that the argument from danglers is supposed to target (I shall keep labelling them "primitive individuals" for the sake of simplicity, but it should be kept in mind that, contrary to what Dasgupta does, I am not presupposing that they belong to a certain category – individuals – as opposed to others anymore).³³

I take the following claims of Dasgupta's to support my proposal:

"For example, consider the following system: a primitive individual called Peter is at an initial time t_0 propelled up in the air by a slingshot, only to fall by gravity back to Earth. And now consider a different system whose initial state at t_0 differs only in the fact that a different primitive individual, Paul, is slung. By hypothesis, we are to suppose that Peter and Paul have the same mass, shape, charge and so on. (...) [I]f the two systems both obey NGT, then Paul will make exactly the same trajectory through space as Peter. According to NGT, the identity of each particle makes no difference to how the slingshot or the Earth's gravitational field affect it".³⁴

"[I]magine a situation in which (...) a primitive individual is placed in front of you. (...) [S]uppose that it is a chair. And now imagine a situation in which everything is exactly the same except that a different primitive individual is in front of you. Suppose this different individual has exactly the same qualities as the actual chair in front of you: imagine it were colored the same, shaped the same, and so on. (...) [T]he situation would look and feel and smell exactly the same to you: we cannot tell the difference between situations that differ only in their individualistic facts".³⁵

Dasgupta is here illustrating his claim that primitive individuals are danglers: in both passages, I argue, what is indicated as (first) explanatory redundant and (second) empirically undetectable is a difference in the identity of the entities involved in a given observation that is not accompanied by any qualitative difference. In line with such hints, according to the construal I am advancing there are no primitive individuals if and only if, once the whole qualitative asset of the world is given, every fact concerning the identity of the existing entities is settled.

³³I suspect that some may find the phrase "questions as concerns its identity" confusing. If so, think of specific instances of such questions: e.g., of questions as to whether or not *it*, as opposed to any other entity of the same kind, exist, or as to whether *it* is involved in some given phenomenon, fact, or observation – or, as to whether it is identical to some entity from another possible world in particular, and so forth.

³⁴Dasgupta, (2009, p. 41). Here, NGT stands for "Newtonian Gravitation Theory".

³⁵Dasgupta, (2009, p. 42)

It can now be seen why there are reasons for rejecting the individuals' assumption. First, note that one may well accept individuals in her ontology – even at the fundamental level! – and yet still exclude there to be any primitive individual in the sense I have described.³⁶ I think that Leibniz's metaphysics may well be seen as a view of this sort. On the one hand, the entities that Leibniz calls "individual substances" arguably *are* individuals under any understanding of the term that has been considered to this day. At least under a certain interpretation – one that was endorsed, to give but one example, in Di Bella, (2005)³⁷ – such entities do constitute the fundamental ontology in Leibniz's system. On the other hand, it seems that something like Dasgupta's argument from danglers would be harmless against them. For any fact of the matter as concerns their identity is completely settled by the qualitative – *via* complete individual concepts that are purely qualitative; each one of them corresponds to one individual substance and, so to say, fix its identity by completely characterizing its nature.

Secondly, note that the assumption that universals are the sole fundamental entities is not only, given what I just said, dispensable if one's aim is that of ruling out primitive individuals: it is also, by itself, insufficient as a means to rule them out. For, *pace* what Dasgupta says about the advantage of his view over the bundle theory in this concern, the Generalist will still have to assume something like PII about the entities she takes as fundamental – for she needs to exclude that some of them may be qualitatively indiscernible though numerically different. Otherwise, some fact concerning their identity would fail to be fixed by the qualitative, hence giving rise to primitive individuals. And although the idea that something like PII is almost trivially verified by such entities as universals has been more or less taken for granted in the general debate, it has recently been challenged, with quite convincing reasons, by Gonzalo Rodriguez-Pereyra.³⁸

A possible upshot of these considerations, I suggest, is the following: if one is convinced by the argument from danglers, it seems that one has good reasons

³⁶The point was very neatly put by Boris Kment: "Anti-individualists reject fundamental individual facts. But they are free to accept that individuals exist. They may even include individuals in their fundamental ontology, by holding that, in stating the fundamental facts, we need to quantify over individuals. (...) The view could perhaps be stated by saying that, even fundamentally speaking, there are indeed individuals, but there are no fundamental facts about which individual any one of them is. Individuals are, as it were, mere anonymous loci of instantiation of qualitative properties and relations, nameless pegs on which we can hang these properties and that we can connect by these relations. They are individuals without individuality." – see Kment, (2012, p. 579). As a matter of fact, I happen to think that Leibniz, whom I take to both accept individuals as fundamental entities and defend a form of Qualitativism, wanted his fundamental individuals to be more than nameless pegs and to partake of individuality, to some extent – I think that his theory of individual concepts has been, in part, his way to fulfil such a theoretical intent. However, such an exegetical point lies beyond the scope of the present essay.

³⁷See, in particular, pp. 23-33.

³⁸Cf. Rodriguez-Pereyra, (2016).

to prefer a more traditional form of Qualitativism such as (what I take to be) Leibniz's over Algebraic Generalism. The two square equally well in getting rid of primitive individuals; both are committed to PII as concerns the fundamental entities; yet – arguably with somewhat dubious reasons – the latter alone directly excludes any form of nominalism about properties (not to mention other deeply revisionary stances it takes, such as Structuralism and Radical Holism).



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