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## Infinite Regress Arguments\*

*Anna-Sofia Maurin*

**Abstract:** According to Johansson (2009: 22) an infinite regress is vicious just in case “what comes first [in the regress-order] is for its definition dependent on what comes afterwards.” Given a few qualifications (to be spelled out below (section 3)), I agree. Again according to Johansson (*ibid.*), one of the consequences of accepting this way of distinguishing vicious from benign regresses is that the so-called Russellian Resemblance Regress (RRR), if generated in a one-category trope-theoretical framework, is *vicious* and that, therefore, the existence of tropes only makes sense if trope-theory is understood (minimally) as a two-category theory which accepts, besides the existence of tropes, also the existence of at least one universal: resemblance.<sup>1</sup> I disagree. But how can that be? How can Johansson and I agree about what distinguishes a vicious from a benign regress, yet disagree about which regresses are vicious and which are benign? In this paper I attempt to answer that question by first setting out and defending the sense of viciousness which both Johansson and I accept, only to then argue that to be able to determine if a particular regress is vicious in this sense, more than features intrinsic to the regress itself must be taken into account. This is why, although the RRR as originally set out by Russell is vicious, the seemingly identical resemblance regress which ensues in a one-category (standard) trope-theoretical context is not (provided, that is, that we accept certain views about how the nature of tropes relates to the resemblance between tropes, and given that we set our theory in a truthmaker theoretical framework – all of which are standard assumptions for proponents of (the standard-version of) the trope-theory).<sup>2</sup>

Infinite regress arguments occupy a unique position in philosophical reasoning: They are wielded with unusual force and against an impressive number of different views stated in significantly different philosophical contexts.<sup>3</sup> Surprisingly enough, the argument itself is

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<sup>1</sup> That reality contains both tropes and universals is also Johansson’s view. For an introduction to this his Aristotelian-cum-Husserlian inspired view of reality, cf. esp. his 2004.

<sup>2</sup> This text partly repeats, partly continues, a discussion between Johansson and myself which resulted in some texts (in Swedish), published a few years ago (more precisely: Johansson, 2008; 2010 and Maurin, 2009; 2010).

<sup>3</sup> You will find the argument used in epistemology (one prominent example is the justification regress launched in defense of foundationalism); in metaphysics (one example is the resemblance regress launched against nominalism; another is the exemplification regress proposed against universal realism); in the philosophy of

however comparatively little discussed.<sup>1</sup> Not that surprising, someone might object. Our notion of an infinite regress is after all one that is well defined and hence well understood.<sup>2</sup> Surprising nonetheless, I insist. For the fact (if indeed it is a fact), that we fully understand the mechanisms necessary to set into motion generation *ad infinitum* can hardly guarantee that we fully understand the proper use and evaluation of an infinite regress in the context of an infinite regress argument.

## 1. Infinite Regress Arguments and a Mostly Missing Premise

To see how the infinite regress argument differs from its constituent infinite regress, consider its ingredients:

1. The premises necessary for the generation of an infinite regress.<sup>3</sup>
2. Conclusion<sub>1</sub>: the infinite regress.
3. The premises necessary to show that conclusion<sub>1</sub> is unacceptable.<sup>4</sup>

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language (for instance the meaning regress generated from and therefore used against the language of thought hypothesis); and so on.

<sup>1</sup> Among those who *have* discussed it, you find e.g., Day, T. J. (1987); Gratton, C. (1997; 2010); Johnstone Jr., H. W. (1996); Nathan, N. (2001); Nolan, D. (2001); Oppy, G. (2006); Passmore, J. (1961); Priest, G. (2002); Sanford, D. H. (1984); Schlesinger, G. (1983); Waismann, F. (1968), and; Wieland, J.-W. (2013). A majority of these philosophers are proponents of the standard view (introduced below).

<sup>2</sup> This is apparently A. F. MacKay's view when he, in trying to understand why Arrow's theorem is true, attempts to show that a crucial part of the theorem's proof can be recast as an infinite regress argument. This recasting, it is supposed, will further our understanding of the theorem exactly because our notion of an infinite regress is "the more familiar and perspicuous" (1980: 367).

<sup>3</sup> Here I will not discuss what these premises are, but I take it that Gratton's (1997; 2010) exposition comes very close to the truth (cf. also Wieland 2013 for a good overview). According to Gratton, the relevant premises are: a *regress formula* (i.e. any statement (or combination of statements) that entails, or is intended by its author to entail an infinite regress) plus some sort of *triggering statement*. To illustrate, an infinity of the relevant kind results from the combination of "Everything that exists has a cause (which exists)" (regress formula) and "*a* (i.e. something) exists" (triggering statement).

<sup>4</sup> I assume that an infinite regress is either vicious ("absurd") or benign. This assumption is supposed to be uncontroversial. Benign regresses are no cause for celebration – they are tolerable, just as a benign tumor is (mostly) tolerable (but cf. my 2011, for a discussion of a view according to which some infinite regresses are not only tolerable, but in fact positively beneficial). One very good reason for

4. Conclusion<sub>2</sub>: the rejection of one or more of the premises listed under (1).

The infinite regress argument is a species of the kind *reductio ad absurdum* that can function as proof that the position from which a regress is generated should be abandoned, precisely because it includes premises that show not only that and how a regress is generated but also why what is generated is a cause for concern (why it is “absurd”). Conclusion<sub>2</sub>, that is, depends essentially on whether or not the premises that appear under (3) can demonstrably, relevantly, and with sufficient strength discredit the position from which the regress is generated. The premises necessary to show that conclusion<sub>1</sub> is unacceptable are obviously nothing we could or should expect to find included in the infinite regress itself.

In spite of this, in an unexpected number of applications of the infinite regress argument, no mention is made of premise 3. That the regress is unacceptable (that it is “vicious”) is at most said to be “plain” or “obvious”.<sup>1</sup> This is no innocent omission. For, even supposing that, at least in some cases, there are regresses which *plainly* exhibit some potentially vicious-making feature, this is in itself proof that there is something seriously wrong with (some part of) the position from which the regress has been generated only if we assume that every time a regress has some potentially vicious-making feature, it is vicious. But this is the same as to exclude from the outset the possibility that what potentially vicious-making feature or features *actually* make a regress vicious may vary from one theoretical context to another. If the possibility of such context-dependent variation is accepted, on the other

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assuming the existence of not only vicious, but also benign infinite regresses is the existence of what seems to be perfectly good examples of such. The truth regress, for instance, is considered quite innocent by most people and, if you are not one of those people, the arithmetic regress presents an even less controversial case. There are some philosophers who do not want to talk about benign regresses; to them, a regress is always vicious. Johnstone (1996), for one, talks merely of a benign *series*. I understand this as a mere terminological disagreement and will therefore disregard it in what follows.

<sup>1</sup> To illustrate, consider the following statement by Russell (1956:112, my italics): “[W]e explain the likeness of two terms as consisting in the likeness which their likeness bears to the likeness of two other terms, and such a regress is *plainly* vicious.” I shall argue later on in this paper that Russell is demonstrably wrong about this.

hand, reasons must *always* be provided for why the presence of a potentially vicious-making feature, *in this particular context*, relevantly and therefore also problematically, interferes with that in the criticized view we wish to reject. This is precisely the sort of reasons we (ought to) find under 3.

So, what feature or features make a regress vicious? In the next section, I will argue, with Johansson as we have seen, that a regress is vicious if it instantiates a certain “pattern of dependence” (in a sense that will be spelled out in more detail below). My argument for this point is negative. That is, I will argue for this view of viciousness from the claim that alternative understandings fail, either because the feature they blame is as a matter of fact not problematic, or because, whether or not it is, it is a feature which characterizes every infinite regress, which means that it cannot be what distinguishes the vicious from the benign.

## **2. Against the Standard View: Why Regresses aren’t Substantially Vicious**

By arguing that there is but one way of distinguishing vicious from benign regresses, I will be opposing the “standard view”. According to the standard view, a regress may be (intrinsically) vicious not only because of the way in which its different steps relate to one another (and to the position from which the regress is generated), but also more substantially, because of some feature or features instantiated by the entities generated in the regress (collectively or individually).

Distinct yet closely related substantial reasons for viciousness have been suggested. They have this in common: in one way or another, directly or indirectly, they blame as vicious-making the *number* of entities to which the regress commits us.<sup>1</sup> But the fact that the number of entities produced in an infinite regress is always the same – infinitely many – prevents anyone intent on preserving the distinction between a regress that is vicious and one that is benign from resting content with

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<sup>1</sup> Precisely because the blame is put on the very feature of a regress which most of us would agree seems potentially problematic – its infinity – the substantial understanding of viciousness has been (and still is) one that importantly influences the way we think and talk about infinity and about the infinite regress. As put by Johnstone (1996: 97-98): “Formulations of both nonvicious and vicious regresses may make use of the phrase “ad infinitum” ... In both cases, the hearer is supposed to regard this phrase as a danger signal – a warning of the same magnitude of seriousness as the phrase “...is a contradiction”.”

simply repudiating anything infinitely large. There must be some reason for distinguishing, and then for preferring, certain infinities over others. One option is to, with Aristotle, distinguish between so-called *actual* and *potential* infinity. According to Aristotle, potential infinity is acceptable infinity. It is infinity such that:

In general, the infinite is in virtue of one thing's constantly being taken after another – each thing taken is finite, but it is always one followed by another; but in magnitudes what was taken persists, in the case of time and the race of men things taken cease to be, yet so that [the series] does not give out. (Aristotle, *Physics*, III.6 206<sup>a</sup>27-206<sup>b</sup>2)

Potential infinity is thus infinity in the sense of “capacity” and entails the existence only of finitely many entities (at a time).<sup>1</sup> An actual infinity, on the other hand, is a completed infinity, all of which members exist. An actual infinity, if such there is, belongs to the furniture of the universe. Actual infinities, Aristotle maintained, are unacceptable in a very strong sense; they are impossible. They are impossible, moreover, because their existence entails the existence of something with proper parts the size of the whole to which they belong.<sup>2</sup> That no such thing could exist, he argued, followed trivially from the fact that if it did it would contradict the axiomatic Euclidean principle that the whole must be greater than its proper parts (*Elements*, book 1, Common Notion 5).

That the distinction between an acceptable and an unacceptable infinity cannot be drawn along the lines of actual and potential infinity, at least not for the reason urged by Aristotle, is today almost universally recognized. True, no finite set can be such that its proper parts are the same size as the whole to which they belong. But, infinite sets are radically different from finite ones. So different, in fact, that that which made Aristotle deem the actual infinity impossible, is now singled out as its distinguishing mark. An infinite set is, as noted by Georg Cantor (1932), nothing other than a set where the whole is equinumerous with its proper parts. To instantiate this feature, then, does not make a set

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<sup>1</sup> In Aristotle's own words (*Physics*, III.6 206b 33-34): “[i]t turns out that the infinite is the opposite of what people say it is: it is not that of which no part is outside, but that of which some part is always outside”.

<sup>2</sup> This was not Aristotle's only reason for repudiating actual infinities. It was, however, the reason that, for generations to come, was counted as his best reason to do so. For a presentation, discussion and criticism of some of Aristotle's other reasons for repudiating actual infinities, see Priest (2002: 31f.).

impossible, it makes it infinite.<sup>1</sup> If we want to be able to draw the distinction between a regress that is vicious and one that is benign along the same lines as that between an infinity that is actual and one that is only potential, we must find some other reason for doing so.

Directly after the publication of Cantor's results discussions on the topic of acceptable and unacceptable infinities were particularly lively. Although the notion of an actual infinity is consistent, it was now urged, it does not follow that there can be anything *in reality* to which it applies. This was David Hilbert's view. According to him, actual infinity only had a role to play as an ideal addition to a finitist mathematics. He concluded that:<sup>2</sup>

[T]he infinite is nowhere to be found in reality. It neither exists in nature nor provides a legitimate basis for rational thought – a remarkable harmony between being and thought. (Hilbert, 1983 [1926]: 201)

But what does it mean to say of an infinity that it is real as opposed to ideal, and why, exactly, could there not be actual infinity in reality? Now, reality as we experience it while going about our daily business is finite. However, the fact that what we experience is finite cannot, unless we want to subscribe to some naïve empiricist principle, be the reason why actual infinity cannot belong to reality. Instead, what we must look for is something about the real – reality – that makes it an unsuitable host for actual infinity. An often cited example meant to illustrate why

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<sup>1</sup> History was not completely devoid of defenders of actual infinity before Cantor. In a letter to Foucher, Leibniz wrote already in 1693 that: "I am so in favour of the actual infinite that instead of admitting that Nature abhors it, as is commonly said, I hold that Nature makes frequent use of it everywhere, in order to show more effectively the perfections of its Author. Thus I believe that there is no part of matter which is not, I do not say divisible, but actually divided; and consequently the least particle ought to be considered as a world full of an infinity of different creatures."

<sup>2</sup> More precisely, Hilbert distinguished between, on the one hand, a fundamental system of quantifier-free (i.e. finite) number theory and, on the other hand, a formal addition of transfinite axioms. The latter were added so as to simplify and complete the theory, but they were added in a sense analogous to that in which "in geometry, the ideal constructions are adjoined to the actual" (Hilbert, 1996 [1923]: 1144).

reality is inapt to harbour actual infinities is that of the so-called paradox of the Grand Hotel:<sup>1</sup>

An infinitely large hotel (a truly *Grand* hotel) with infinitely many guests (a “full” hotel, by finitist standards) can always fit one more guest in, by moving each of the guests already occupying a room to the room next to it (thereby leaving room one free for the newcomer). In fact, it can fit infinitely many new guests in (by, this time, moving each guest to a room with a room-number twice as large as the one they were occupying, thereby leaving all the odd-numbered rooms free for the infinitely many newcomers). And, if infinitely many guests move out – it will still be full!

William Lane Craig (1991: 85-96) thinks that the paradox of the Grand Hotel *proves* that real actual infinities are impossible.<sup>2</sup> It is, however, unclear exactly what in the example proves this. Craig himself points to two “absurdities”: the task of adding the guests in the manner set out in the example and the fact that the odd-numbered rooms in the hotel must be as many as its total amount of rooms. Neither absurdity proves that actual infinity in reality is impossible however. The fact that, in a truly Grand hotel, the odd-numbered rooms would have to be as many as its total number of rooms, first of all, only seems absurd because not surprisingly our intuitions are modelled on that with which we are familiar: the finite. To argue against the possible existence of real actual infinity on the basis of such intuitions would of course be question-begging. And, although there *is* something troubling and perhaps even absurd about the performance of the requisite room-changing task, only if the absurdity results from the infinity itself can it be proof that real actual infinity is impossible. But it does not. Moving guests in the required way involves a “supertask”: a task with infinitely many steps (the adequate changing of rooms) performed in a finite amount of time. Finite beings (such as the infinitely many guests occupying rooms at the hotel) could most probably *not* perform the task of changing rooms in a finite amount of time. The absurdity comes, not from some particular

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<sup>1</sup> This is not really a paradox in the logical sense of the word – it is rather an example exploiting the extreme unintuitiveness of the idea of an actual infinity as applied to concrete reality.

<sup>2</sup> And he then goes on to apply this conclusion to the cosmological argument for the existence of God (God must exist, for if he does not an actual infinity of causes can be generated into the past, actual infinities are impossible, so there must be a first cause and this is God).

property had by the infinity in question, but from the contrast between the properties that the infinity does have and matters of fact concerning human beings and their capacities. From our perspective this is not interesting because, even if we agree that supertasking involves us in absurdity, this does not mean that the actual existence of infinitely many real entities is impossible.

Maybe we should not expect to find an explanation of why reality cannot harbour infinity by studying the infinite as a whole, but rather by studying the properties of the entities of which the real (as opposed to ideal) infinities are composed. Suppose that reality consists of the “middle-sized dry goods” – the objects – with which we interact daily. These are *concrete*, as opposed to abstract entities. To say of an entity that it is concrete is, let us suppose, (minimally) to say that it is such that it occupies only one position in space at each moment in time, that it monopolizes this position (at least in relation to other concrete objects<sup>1</sup>), and that it has an identity that can be retained over time and through at least some changes. To say that there can be no actual infinity in reality is perhaps just to say that there can be no actual infinity of entities of this kind. To say this cannot be the same as saying that there can be no actual infinity in reality, however. Both ontology and natural science are subject-matters which aim at disclosing the “true” nature of reality. Yet, both ontological and scientific theories posit entities that do not behave like the entities with which we are accustomed to interact do. They behave, rather, as we would expect an *abstract* entity to behave.<sup>2</sup> In fact, on many (perhaps even most) theories about the fundamental nature of reality, to be able to account for the existence of precisely that which we want to call a concrete object, abstract entities *must* be posited (think of forces, fields, processes and the like in natural science, or of relations and properties in ontology).<sup>3</sup> Therefore, from the impossible existence in reality of an actual infinity of concrete entities, it does not follow that there could be *no* actual infinity in reality. If we want to distinguish

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<sup>1</sup> I am here – and for the sake of the argument – disregarding the huge discussion on spatially coincident concrete particulars (the so-called “statue/clay” debate). But cf. J. J. Thompson 1998, for a good introduction.

<sup>2</sup> To distinguish what is abstract from what is concrete is truly no easy task. For a fuller treatment of the issue, cf. e.g., my (2002), especially chapter 2.

<sup>3</sup> For an interesting discussion of the abstract entities to which science appears to commit us (and of what these apparent commitments might entail for ontology) see B. Ellis (2005) and S. Psillos (2005).

vicious from benign infinity in terms of concreteness, we must therefore accept that reality *can* harbour actual infinities of a kind that is not objectionable.

But why should one think that reality cannot harbor actual infinities of concrete objects? One reason might be that, since concrete entities are typically such that they monopolize their position in space-time, there is quite simply no room for an actual infinity of entities of that kind. As far as I understand, the size of the universe, and especially the question whether, if it is infinite, this infinity is actual or merely potential, is not yet settled (a fact that in itself would seem to point to the *possible* existence of actual infinities). We may therefore reasonably ask: If the universe is finite in size, could it make room for an (actual) infinity of concrete entities? Russell, discussing these matters in *The Principles of Mathematics*, says ‘yes’. As long as we believe that there are bounded stretches of space (or time) it in fact follows that there are actual infinities in the world. He points out that those who deny the existence of actual infinity still admit that what they call finite space may very well be a “given whole”, but:

...such a space is only finite in a psychological sense – it is not finite in the sense that it is an aggregate of a finite number of terms, nor yet a unity of a finite number of constituents. Thus to admit that such a space can be a whole is to admit that there are wholes which are not finite. With respect to time, the same argument holds. (Russell, 1903: 144)

It seems therefore that we must look elsewhere for that which distinguishes entities making up unacceptable infinities from entities making up acceptable ones. One alternative is perhaps provided by the principle of ontological parsimony expressed by the so-called “Ockham’s razor”. Ockham’s razor tells us that we should not postulate entities *beyond necessity*. Daniel Nolan explains how this insight may be used to distinguish a regress that is vicious from one that is benign:

...the boundary might well be this: a regress is taken to be benign when the quantitative extravagance is a cost worth paying, and vicious when either the quantitative extravagance is not a cost worth paying, or if it has some more serious fault of which the regress is evidence. (Nolan, 2001: 536-537)

But what is to decide whether quantitative extravagance is a cost worth paying or not? What makes whatever the regress commits us to,

unnecessary? Suppose, as it is often said, that unnecessary entities are entities that are *idle* or *inert*. You might want to say that an entity is idle if it exists for no particular purpose, but talk of purposelessness is not of much use here. For one thing, a kind of purposelessness seems characteristic of *every* entity generated by a regressive mechanism (with the possible exception of the entities generated in its first step). It may even seem as if the regresses that we find most *unobjectionable* are so more or less *because* that to which they commit us is especially purposeless – and so does not substantially interfere with whatever explanatory task we are for the moment engaged in. To consider what is idle as what is causally powerless (and equate the razor with a kind of Eleatic principle), is not much of an improvement. Again, most of the regresses we find unobjectionable turn out to be vicious. Worse, infinite regresses by many considered as plainly vicious, like the causal regress, become virtuous almost by definition.<sup>1</sup>

But if the viciousness of a vicious infinite regress is not situated in some particular feature had by each of the infinitely many generated entities, individually or collectively, then where does it reside? What, if nothing “substantial”, *makes* a vicious regress vicious? In the literature it is more or less unanimously agreed that, whether or not a regress may be vicious for substantial reasons, it *can* be vicious for what we may provisionally call “structural” reasons. That is, and more precisely, besides (or, as we have just argued, *rather than*) being vicious (or benign) for substantial reasons, a regress is vicious or not because of the way its distinct steps relate to one another, and to the position from which the regress was originally generated.

### **3. The Structural Understanding of Viciousness**

According to Johansson, as we have seen, to accept the “structural” understanding of viciousness is to accept that in a regress of the

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<sup>1</sup> Nolan might object that his is not a distinction between regresses that commit us to entities that are idle and those that do not so commit us. His distinction is formulated in terms of costs and benefits and says that a benign infinite regress is one where the cost of quantitative extravagance is acceptable and a vicious regress is one where it is not. I think Nolan is right to think that the standard of parsimony (whether quantitative or qualitative) is not absolute. However, and for the same reason, quantitative parsimony cannot substantially distinguish a vicious from a benign regress even if it can be used to distinguish good from bad or acceptable from unacceptable theories.

problematic kind, “what comes first [in the regress-order] is for its definition dependent on what comes afterwards.” This way of formulating the distinction now needs to be somewhat qualified. My first qualification concerns the scope of Johansson’s formulation. Johansson puts the distinction in terms of dependence *for definition*, but this is clearly unfortunate. For, although definition is sometimes what is at stake,<sup>1</sup> it is far from always what is at stake.<sup>2</sup> The distinction between vicious and benign regresses is therefore better put in terms of (direction of) dependence *generally*: Regresses of the vicious kind are such that the first step of the regress will depend (for its definition, but also, as the case may be, for its justification, existence, meaning, etc.) on what appears in the next step of the regress (etc. *ad infinitum*). Regresses of the benign variety are characterized rather by the opposite direction of dependence.

That the distinction between vicious and benign regresses ought to be understood in terms of direction of dependence in the way set out above is a view that I have proposed repeatedly in past publications (cf. e.g., my 2002; 2007). I still believe that this way of understanding the distinction allows you to correctly identify as vicious *the great majority* of the vicious regresses (and as benign the great majority of the benign regresses). However, I now think that it might lead you to wrongly identify a regress as vicious (or as benign) in certain (admittedly highly improbable) circumstances. This is why I now want to propose a second and arguably more substantial qualification both to Johansson’s account, and to my own generalized version of Johansson’s account. On this

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<sup>1</sup> Cf. Russell (1903: 348) who puts the relevant distinction in terms of definition/meaning: “in the objectionable kind [of regress] two or more propositions join to constitute the meaning of some proposition; of these constituents, there is one at least whose meaning is similarly compounded; and so on ad infinitum.” And, again, “an endless process is not to be objected to unless it arises in the analysis of the actual meaning of a proposition” (ibid: 51). An infinite regress of a benign variety, on the other hand, would have the following appearance: “[i]f A be a proposition whose meaning is perfectly definite, and A implies B, B implies C, and so on, we have an infinite regress of a quite unobjectionable kind” (ibid: 349).

<sup>2</sup> In e.g., an epistemological context, the relevant relations have to do with whether the proposition that occurs in one step of the regress justifies or is justified by the next. In ontology, what is at stake is existence and the relevant relations therefore concern existential dependence between entities; whatever is posited at each step of a regress has its existence determined by either what precedes it in the regress-order, or by what succeeds it.

modified view, a vicious regress is vicious if it somehow *hinders the position from which it has been generated from “fulfilling its explanatory (or other) task”*. This way of understanding the distinction between a regress that is vicious and one that is benign is in fact nicely captured in the following quote from Johnstone:

...an alleged definition (or criterion or explanation, or, for that matter, analysis, justification of *X*, or account of the decision to do *Y*) gives rise to a vicious infinite regress when instead of defining (or serving as a criterion, explanation, analysis, or justification of *X*, or account of the decision to do *Y*) it merely *postpones* the definition, explanation, analysis, or justification, or account of the decision. (Johnstone, 1996: 97)

A good thing about Johnstone’s formulation is that it explains why understanding the distinction in terms of direction of dependence in the way set out above seems to be on the right track. It seems to be on the right track, that is, because, in most circumstances, a regress that instantiates a dependence-pattern of the (potentially) vicious-making kind, is a regress which postpones – and hence hinders – the original position from constituting the explanation (account, definition, justified proposition, etc.) it claims to be. Another good thing about Johnstone’s way of putting things is that while it in this way rationalizes a distinction formulated in terms of direction of dependence, it also manages to make room for the (admittedly not very likely) possibility that a regress which instantiates a pattern of dependence of the presumably vicious-making kind is nevertheless *not* vicious. This is because what is important for viciousness, on Johnstone’s account, is whether or not the existence of the regress somehow hinders the position from which it has been generated from “being” whatever it claims to be: a *full* explanation, a *justified* proposition, a *possible* existent, a *meaningful* proposition, or what have you. Clearly, given certain (probably rather controversial) framework assumptions, neither explanation, justification, or existence need be incompatible with the existence of an infinite regress, even an infinite regress which instantiates a pattern of dependence of the seemingly problematic kind.<sup>1</sup>

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<sup>1</sup> An example might be if one gives up the requirement that explanation (or, for that matter, justification) must *ground out*. Cf. e.g., Orilia 2009 and Gaskin 2008 for two suggestions along these lines. Cf. Maurin 2011 for a critical discussion of their particular suggestions.

But this means that, on the present view, whether a particular regress is vicious (or not) will depend essentially on what is assumed *in the situation at hand*. It will depend, that is, on what is the relevant question to which the regress-generating position purports to provide the (full) answer and, perhaps even more importantly, it will depend on what in the present context *counts as a full answer* to that question. On this view, then, whether or not a particular regress is vicious *cannot* be ascertained simply by studying the features (whether substantial or structural) instantiated by the regress itself *independently of the theoretical context in which it appears*. It is this fact, I will next try to demonstrate, which arguably explains the puzzling disagreement that exists between Johansson and myself.<sup>1</sup>

#### **4. Assessing Viciousness: The case of the RRR**

In “On the Relations of Universals and Particulars” (1956[1911]), Russell examines and dismisses what he calls “the theory which admits only particulars”. The theory he has in mind seems to be the same as that advocated by e.g., George Berkeley and David Hume in their polemic against abstract ideas. The theory is described by Russell as follows:

The general term ‘white’, in this view, is defined for a given person at a given moment by a particular patch of white which he sees or imagines; another patch is called white if it has exact likeness in colour to the standard patch. In order to avoid making the colour a universal, we have to suppose that ‘exact likeness’ is a simple relation, not analyzable into a community of predicates; moreover, it is not the general relation of likeness that we require, but a more special relation, that of colour-likeness, since two patches might be exactly alike in shape or size but different in colour. (Russell, 1956: 111)

A problem arises, says Russell, because the nominalist must, so as to not make the relation of colour-likeness universal, apply the same analysis as was previously applied to the property shared by distinct objects to it: “we may take a standard particular case of colour-likeness, and say that anything else is to be called a colour-likeness if it is exactly like our

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<sup>1</sup> The “structural” understanding of viciousness certainly deserves a fuller treatment than it can be given here. However, hopefully, the admittedly sketchy account provided above is enough to make sense of the discussion set out in this text’s final section.

standard case.” (ibid) This leads to an infinite regress which, Russell concludes, is “plainly vicious”.

Now, the context is here ontological, but what are the framework assumptions? The quote offers us some clues. It is the *general term* ‘white’ which is defined for a given person at given moment as a particular patch of white. The same *analysis* must be applied to (our notion of) exact resemblance, and then again and again *ad infinitum*. What Russell is objecting to are the views of someone who not only believes that there are only particulars, but who also believes that what there is, is to be decided by a close study – an analysis – of our conceptualisation of reality. If we appear to be conceptually committed to e.g. universals, proponents of the view under attack must hold that this appearance can only be rejected as illusory if it can be demonstrably *analysed away*. Consequently, if you subscribe to the view criticised by Russell, the trigger – *a* is exactly similar to *b* – can be true, only if the similarity class to which the exact similarity holding between *a* and *b* belongs, exists, and so on for each new level of exact similarity. This is so because at each step a new general term will appear, and so demand an analysis. This regress is vicious because at no step are the conditions necessary for *a* to resemble *b* ultimately fulfilled, which means that the existence of the regress hinders the theory from which it has been generated from providing a full account of (in this case) the fundamental nature of reality.

Notice, however, that what may appear to be the same regress would not be vicious (or so I would like to claim), if it were based on different framework assumptions. Suppose, again, that the context is ontological. We are interested in what there is, and, more precisely, we are interested in arguing that what there is, is particular. On one such view, trope-theory, all there is are particular properties. What makes it true that two distinct concrete particulars share a property (e.g. are both red), is that each particular contains a red-trope and that the red-tropes *exactly resemble* one another. The exact resemblance of the red-tropes must, however, be given an ontological account. Given trope monism, the only available ontological characterisation is one according to which exact resemblance is *yet another trope*. It is this admission which generates an infinite regress of the same type as that launched by Russell against classical Nominalism. On the face of it, the Russellian resemblance regress and its trope theoretical counterpart will look exactly the same. The trigger in both cases is the state of affairs that *a*

exactly resembles *b*.<sup>1</sup> One difference is, of course, the nature of *a* and *b*. On the view criticised by Russell, *a* and *b* are concrete objects (colour patches, more precisely), whereas the basic question for trope theory will concern the exact resemblance of tropes, which are a kind of abstract particulars, or particular properties. The *relevant* difference is not this difference in nature, however. To be able to determine if the regress is vicious or not we must consider the framework assumptions. On most versions of trope theory, objects do not have properties *because* they belong to some particular similarity class. Instead, they belong to some particular similarity class, *because* they have some particular properties – the tropes, which nature is primitive (this is the “standard” view among the trope-theorists, a view that is defended by e.g., Williams 1953; Campbell, 1990, and; Maurin 2002). The trope theorist can say this, because she does not assume that in order to account for resemblance she must be able to in one way or another analyse away each occurrence of a general term. Instead, most trope theorists operate in a truthmaker theoretical framework. The question is what is required for the *truth* and not necessarily also for the *meaning* of the theory’s central propositions. Therefore, if you are a trope theorist, the trigger, to obtain, requires no more than the existence of tropes *a*, *b* and their trope of resemblance. The infinite regress does not prevent the trigger from existing. It is rather the existence of the trigger that sets into motion the infinite generation of exact resemblance tropes. The trope theoretical resemblance regress is, therefore, benign.

Johansson and I can agree about what makes a regress vicious, yet disagree about which regresses are vicious, therefore, either because we disagree about what needs to be taken into account in order to be able to determine if a regress is vicious or not, or, because we disagree about the framework assumptions given which the relevant (trope-theoretical) regress is generated.

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<sup>1</sup> Or, given that in order to generate the relevant regress, we need at least three resembling tropes (for an argument to this effect, cf. Johansson 2009), the trigger must rather look something like this: *a*, *b*, and *c* exactly resemble each other.

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