On Gratton's *Infinite Regress Arguments*

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This is a much welcomed book. Its main message is: make your infinite regress argument explicit! The typical presentation of such an argument is, as Gratton puts it, "so succinct and has so many gaps" (p. xi) that we hardly know what to think of it. Yet if infinite regress arguments (henceforth IRAs) can establish important conclusions, we better know how to evaluate them. This book offers such a tool. In the following I briefly summarize some of the main results of the book (§1), and look in some more detail at the last chapter on IRAs of recurring problems and responses (§2).

1. Gratton's Schema

Gratton proposes a four-steps IRA schema (Diagram 2 on p. 4):

(1) Regress formula.
(2) Trigger.
(3) Infinite regress. (1-2)
(4) Result. (3)
(5) Further premises.
(6) Result is unacceptable. (4-5)
(7) Regress formula is to be rejected. (1-6)

Call this Gratton's Schema. By this schema, what we may expect from IRAs is the rejection of regress formulas. For completeness, the relevant premises usually follow from further premises, and another possibility would be to conclude with the rejection of the trigger. But forget about that here. Here is a simple instance of the schema:

(1) For every philosopher, there is a wiser philosopher.
(2) I am a philosopher.
(3) Infinite regress of wiser philosophers. (1-2)
(4) Existence of an infinity of philosophers. (3)

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(5) It is false that there is an infinity of philosophers.
(6) If something is false, it is unacceptable.
(7) The existence of an infinity of philosophers is unacceptable. (4-6)
(8) The formula that there is always a wiser philosopher is to be rejected. (1-7)

To be sure, IRAs are arguments with an infinite regress among one of their lines. An important issue is why Gratton's Schema consists of four arguments, and not just of the second where the infinite regress functions as a premise. So, why does it also contain the derivation of the infinite regress (first argument), the derivation of an unacceptable result (third argument), and the derivation of the rejection of the regress formula (fourth argument)? Gratton's answer is basically that most IRAs are Reductio Ad Absurdum arguments (p. 9). In the latter some premise is assumed for the purpose of deriving unacceptable consequences from it, and to reject the premise just on that basis. If IRAs are reductios, then the boundaries of the former are the boundaries of the latter. That is: then IRAs should contain both the premise to be rejected (first argument) and the conclusion where it is actually rejected (last argument).

If IRAs contain an infinite regress among one of their lines, then what does this line consist of? According to Gratton, it is a kind of infinite series and can be demarcated on the basis of what he calls hypothesis H (p. 18):

(H) An infinite series of steps is an infinite regress iff all the steps (i.e. relational statements) can be ordered in such a way that it is possible to construct a regress formula such that its $output_n$ (consisting of a trigger and $step_n$) together with that formula entails $output_{n+1}$ (consisting of a new trigger and $step_{n+1}$).

Take the example with philosophers again. In that case the infinite series consists of the steps: (1) there is a philosopher no. 2 and the latter is wiser than I am, (2) there is a philosopher no. 3 and the latter is wiser than no. 2, (3) there is a philosopher no. 4 and the latter is wiser than no. 3, (4) etc. By (H), this infinite series is an infinite regress because there is a formula which together which a trigger entails the foregoing steps:

Regress formula: For every philosopher, there is a wiser philosopher.
Trigger: I am a philosopher.
Output$_1$: There is a philosopher no. 2 and the latter is wiser than I am.

> *Step*$_1$: Philosopher no. 2 is wiser than I am.
> *New trigger*: There is a philosopher no. 2.
> *Output*$_2$: There is a philosopher no. 3 and the latter is wiser than no. 2.
> *Step*$_2$: Philosopher no. 3 is wiser than no. 2.
> *New trigger*: There is a philosopher no. 3.
> etc.

Gratton labels infinite regresses such as this one as 'concatenating regresses' (basically because there is a concatenating relation *being wiser than* which links the series of philosophers, cf. p. 15). Consider by contrast this infinite series: (1) there is a philosopher no. 1, (2) there is a philosopher no. 2, (3) there is a philosopher no. 3, (4) etc. By (H), this series fails to be an infinite regress simply because the steps are no relational statements.

The last general point I would like to mention is Gratton's take on viciousness. Some philosophers have suggested that infinite regresses are vicious because they exhibit a dependence pattern of the wrong kind, or because they entail that something is infinitely postponed, or because they entail something which cannot be completed, or because they entail something which violates Occam's razor. Gratton tries to capture all these specific reasons by something more general:

- An infinite regress is vicious iff it entails an unacceptable result.

Furthermore, a result is unacceptable if it is false, or if it is inconsistent with something else that we are unwilling to abandon (p. 101). For example, the regress of philosophers is vicious because it entails that there is an infinity of philosophers which is false. Or the regress may be vicious because it entails that there is no wisest philosopher, whereas we believe that Plato is the wisest (say), and so the regress entails a statement which conflicts with something we are unwilling to abandon.

2. IRAs of recurring problems and responses

The last chapter (ch. 6) opens as follows:

> […] However, the results of this discussion will show that IRAs of recurring problems and solutions are distinct from all the previous IRAs examined so far, and that they must be evaluated differently. (p. 159; abbreviations are mine)

I tend to disagree that IRAs of recurring problems and responses are different from more typical IRAs, and shall explain this by discussing McTaggart's regress. Consider a reconstruction based on Gratton's Diagram 3 on p. 164:

(P1) Any event has the incompatible characteristics of being past, present and future simultaneously. [Further premises.] So, time does not exist.

(R1) Any present event is present, has been future, and will be past (any past event is past, and will be present and future, etc.). So, events have these characteristics successively, and the first premise of P1 is false.

(P2) So, any event has the incompatible characteristics of being past, present and future simultaneously. [Further premises.] So, time does not exist.

etc.

Gratton assumes that problems and responses are arguments. Surely not all arguments are problems: only those arguments where the conclusion conflicts with common sense (or something else we are willing to abandon) are problems (p. 163). Also, responses are arguments which establish the falsity of one of the premises of the problem they respond to. In the regress above, R1 establishes the falsity of the first premise of P1, and so the truth of the problematic conclusion is no longer established by it. Then R1 entails a premise of P2 with in turn establishes a problematic conclusion, etc.

Somewhat importantly, recurring problems are to be similar to one another (i.e. of the same type), not identical. If they were identical, it would immediately follow that R1 fails to solve P1 (because P1=P2, and so R1 entails the problem it is to solve). Yet in Gratton's reconstruction P1 and P2 look very much the same (even though nothing in his discussion suggests that he regards them as identical). Here is an alternative reconstruction where it is explicit that P1, P2, etc. are only similar:

(P1) Any event has the incompatible characteristics of being past, present and future simultaneously. [Further premises.] So, time does not exist.

(R1) Any present event is present at the present moment, future at a past moment, and past at a future moment (any past event is present at a past moment, etc.). So, events have these characteristics successively, and the first premise of P1 is false.

(P2) So, any moment has the incompatible characteristics of being past, present and future simultaneously. [Further premises.] So, time does not exist.

(R2) Any present moment is present at the second-order present moment, future at a second-order past moment, and past at a second-order future moment (any past moment, etc.). So, first-order moments have these characteristics successively, and the first premise of P2 is false.

(P3) So, any second-order moment has the incompatible characteristics of being past, present and future simultaneously. [Further premises.] So, time does not exist.

etc.

This reconstruction incorporates the idea that the regress is one of higher and higher-order A-series (i.e. series ordered on the basis of the properties of being past, present and future, rather than the relations of being earlier then, simultaneous with and later than). Compare McTaggart's succinct reasoning:[1]

> If we avoid the incompatibility of the three characteristics by asserting that M is present, has been future, and will be past, we are constructing a second A-series, within which the first falls, in the same way in which events fall within the first. […] The second A-series will suffer from the same difficulty as the first, which can only be removed by placing it inside a third A-series. The same principle will place the third inside a fourth, and so on without end. (1908: 469)

But my point is not exegetic. As said, I want to evaluate Gratton's claim that infinite regresses like McTaggart's do not fit his IRA schema. He lists six points to support this claim (pp. 166-7). Below we shall look at them one by one.

(1) In contrast to other IRAs, McTaggart's IRA has no regress formula, and its goal is not the goal of McTaggart's IRA is not to refute such a formula, but rather to refute a response (or any number of similar responses) located within the infinite regress.

But we could construct a regress formula. Gratton suggests that the formula might be this: for any problem of type X, there is a response that entails a contradiction which functions as a premise in a new problem of type X. Gratton is right that the goal of an IRA of recurring problems and responses

[1] McTaggart, J. E. 1908. The Unreality of Time, *Mind* 17: 457-74. I should note that Gratton does not refer to this paper, but to McTaggart's later book *The Nature of Existence* (1927).

is not to refute something like this formula. However, if we break it up into two formulas, i.e. 'every problem of type X is (to be) solved by a response of type Y that is distinct from any prior response' and 'every response of type Y gives rise to a new problem of type X', it is possible to see IRAs of recurring problems and responses as refutations of the former. This similarly applies to ch. 5 on IRAs of recurring questions and answers. The relevant regress formulas might be 'every question of type X is (to be) answered by an answer of type Y that is distinct from any prior answer' and 'every answer of type Y gives rise to a new question of type X', and it is eventually concluded that the former formula is to be rejected. But this should not surprise us if we assume that to answer a question is just to solve a problem of a certain kind.

(2) In contrast to other infinite regresses, McTaggart's regress is not entailed. No problem_n entails response_n, and so the regress extends to response_n only contingently.

This is why Gratton calls it 'McTaggart's Discontinual Regress'. All responses (R1, R2, etc.) entail a new problem (P2, P3, etc.), but it is not the case that the problems entail any of the responses. Yet the responses may be entailed by something else, i.e. a regress formula. As we have seen, the schematic formula could be: every problem of type X is (to be) solved by a response of type Y. In McTaggart's case, the specific formula would be: for any nth-order present moment x, the problem of how x is past, present and future in a non-contradictory way is solved by holding that x is present at the n+1th-order present moment, future at n+1th-order past moments, and past at n+1th-order future moments. The whole regress is entailed if we also assume a trigger and a second formula: for any nth-order present moment x, the response of holding that x is present at the n+1th-order present moment, future at n+1th-order past moments, and past at n+1th-order future moments entails the contradiction that n+1th-order moments are both past, present and future.

(3) In contrast to other infinite regresses, McTaggart's regress stops at the moment the person presenting the responses sees that the same pattern would continue, or the moment she stops out of "exhaustion, boredom, or insanity" (p. 166).

If there happens to be a regress formula which can generate the infinity of responses (see the previous point), the regress does not need to stop because we already know the pattern, or because we are tired of providing responses of the same kind.

(4) In contrast to other infinite regresses, McTaggart's regress is not vicious because the regress as a whole entails an unacceptable result distinct from the regress itself.

This seems wrong. Consider what McTaggart draws from the regress:

> You can never get rid of the contradiction, for, by the act of removing it from what is to be explained, you produce it over again in the explanation. And so the explanation is invalid. (1908: 469)

McTaggart invokes this argument schema: (i) there is a problem of getting rid of a contradiction P; there is a response R of resolving P; R generates a contradiction P* which is similar to P; P* can be resolved by R* which is similar to R; R* generates a contradiction P** which is similar to P and P*; and so on to infinity; hence, (ii) R does never get rid of contradictions similar to P; (iii) if responses never get rid of problems which are similar to the one they resolve, they are unacceptable;[2] hence, (iv) R is unacceptable. In this reconstruction, premise (i) is the regress, and (ii) is its result. Moreover, the regress is to be vicious exactly because (i) entails the unacceptable premise (ii).

The point generalizes: as there are many different sufficient conditions of unacceptability (such as the one stated at (iii)), McTaggart's regress may entail a variety of unacceptable consequences.

(5) In contrast to other IRAs, McTaggart's regress should not be infinite for the argument to work.

Gratton appeals to the following argument: (i) assume that for some n, $problem_n$ is unresolved; (ii) if for some n, $problem_n$ is unresolved, then the $response_{n-1}$ which entails $problem_n$ entails an unresolved problem; (iii) if something entails an unresolved problem, it is unacceptable;[3] hence, (iv) $response_{n-1}$ is unacceptable. The argument works only if the regress is finite. For if it were infinite, there would be a response for every problem, and consequently no problem would be left unresolved. This reasoning is important and correct insofar as we already accept (4). However, if we take the IRA as set out at the previous point (i.e. with another condition of unacceptability), it is debatable whether McTaggart's regress needs to be finite.

[2] Are they?

[3] Is it?

On the one hand, it does not need to be infinite, for after a few steps it is already clear that similar responses will never fail to entail similar contradictions. On the other hand, if the regress is finite, it may be so not because some problem is left unresolved, but because it is solved by a response of another kind. McTaggart's regress may be finite, for example, because we hold that first-order moments are past, present and future non-simultaneously because they were past earlier than they were present and future, present later than they were past and earlier than they were future, and future later than they were past and present. In that case, there is no appeal to higher-order moments (but to temporal relations of the B-series), and the regress stops. Furthermore, it does not follow that the initial response (i.e. that present events are past, present and future non-simultaneously because they are present at the present moment, future at a past moment, and past at a future moment) does never get rid of problems similar to the initial problem, and so it does not follow that the initial response is unacceptable. So, whether the regress needs to be finite or infinite is debatable.

(6) In contrast to other infinite regresses, in McTaggart's regress the expression "ad infinitum" does not indicate that the regress is infinite, but that no matter how many times one responds in a similar way to a problem, the same kind of problem will recur.

Is this so much of a difference? The expression "ad infinitum" in McTaggart's regress indicates that no matter how many times one resolves the contradiction of some nth-order A-series by some n+1th-order A-series, there will always be the problem that the n+1th-order A-series is contradictory. Similarly, "ad infinitum" in the regress of wiser philosophers indicates that no matter how many times one finds a wiser philosopher, there is always one which is still wiser.

Given these six points, I suspect that IRAs of recurring problems and responses, like McTaggart's IRA, might be not too different from the other IRAs discussed in the book (i.e. those which are based on Gratton's Schema).

To be sure, I have examined only a small portion of Gratton's stimulating book. It also includes a chapter on the features of concatenating regresses (ch. 2), a chapter on the various reasons of why regresses may be vicious, and on how vicious regresses can be blocked (ch. 3), and one on the connection between regresses and circularity (ch. 4). In particular, IRAs have never been collected on this scale, and we may benefit from his level of generality (cf. Gratton's Schema and his take on viciousness). The book is a very welcome addition to the philosophical toolkit.