X. JUSTIFIED BELIEF AND THE INFINITE REGRESS ARGUMENT

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An infinite regress argument is often presented in order to force the alternatives of a foundation or a coherence account of justified belief. It is typically said that if S's belief that \( p \) is justified, then it is justified by S's justified beliefs of something other than \( p \), e.g. that \( q \). But since these latter beliefs must also be justified, an infinity of justified beliefs is required. Hence, unless one is to deny that justified belief is possible, one must either deny that the justification is serial, i.e., adopt a coherence account, or affirm that the justificatory series has a terminus, i.e., adopt a foundational account.\(^2\)

However, the question of whether the regress is vicious or virtuous has been neglected. With the possible exception of Pierce\(^3\) those who have presented the regress have merely assumed its viciousness. But if the regress is virtuous, \( \textit{neither} \) a coherence nor a foundational account of justified belief need be adopted.

I shall argue that the regress is vicious (i.e., would entail an impossibility) because it would entail the justified believer holding an infinite number of beliefs, which is impossible. Moreover, I shall criticise a rival view,\(^4\) that the viciousness of the regress accrues because it would entail the justified believer holding an infinitely complex belief.

I. INFINITELY NUMEROUS BELIEFS

The regress in justification for S's belief that \( p \) would certainly entail that he holds an infinite number of beliefs. This is psychologically, if not logically, impossible. If a man can believe an infinite number of things, then there seems no reason why he cannot know an infinite number of things. Both possibilities contradict the common intuition that the human mind is finite. Only God could entertain an infinite number of beliefs. But surely God is not the only justified believer.

It has been thought (\textit{ibid.}, p. 312) that one sometimes holds an infinite number of beliefs, when one believes the infinitely numerous entailments of what one indisputably believes. A possible source of this thought is the thesis that if S believes that \( p \), then S believes the entailments of \( p \). This is mistaken. The proposition expressed by "This figure is equilateral" entails that expressed by "This figure is equiangular." But a man may believe that this figure is equiangular without believing that it is equiangular. He may understand the former proposition while either not understanding the latter, or not knowing that if this figure is equiangular then it is equiangular.

Were one to believe the infinitely numerous entailments of what one indisputably believes then these beliefs would not be beliefs of which one is conscious. It is psychologically, if not logically, impossible to consciously entertain an infinite series. If one consciously believes that \( p \), then one has considered whether \( p \). One considers a proposition within datable temporal limits. It may be logically, but it is not humanly possible\(^5\) to perform an infinite number of tasks in a finite time. God may be able to simultaneously consider in a finite time an infinite number of propositions, but surely no one else can.

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\(^5\) Cf. N. M. L. Nathan, "What Vitiates An Infinite Regress of Justification?" \textit{Analysis}, vol. 37 (1977), p. 120.
Admittedly, it is logically possible that one could take less time to consider whether \( p \) than to consider whether \( q \), and less time still to consider whether \( r \) and so on ad infinitum. But surely it is contingently true that there is a minimum time in which a man can consider a proposition. Only God could consider whether \( p \) in a trillionth (or trillionth trillionth or \ldots) of a second.

Is it possible to unconsciously believe the infinitely numerous entailments of what one indisputably believes?

A seemingly plausible example of this has recently been advanced\(^6\): What I indisputably believe is that I am within one hundred miles of Boston. Moreover, I believe, albeit unconsciously, that I am within two hundred miles of Boston and believe unconsciously that I am within three hundred miles of Boston and ad infinitum.

But now I must be able to understand what I believe, in each case. It would be ludicrous to attribute to someone beliefs of things of which he had never heard or of which he had no understanding. This, together with the comprehension of a normal dog explains why it is plausible to say of it that it believes that a cat is outside the house but implausible to say that it will be beaten every second Sunday in Lent.

But in the series of propositions—I am within one hundred miles of Boston, I am within two hundred miles of Boston \ldots and ad infinitum, there are propositions so finitely complex that these defeat human understanding. At some point there will occur a proposition of the form—I am within \( n \) miles of Boston—in which \( n \) represents a number so large that no one can consider it. While there is no point at which \( n \) is infinitely large, there will be a point where, e.g., even writing it down would not be a task achievable in a mortal lifetime.

Consider another apparent example of unconsciously believing the infinitely numerous entailments of what one indisputably believes: I indisputably believe that \( p \). Moreover, I unconsciously believe that not \( p \), unconsciously believe that not not \( p \), \ldots and ad infinitum. At no point in an infinite series of such propositions is the number of "nots" infinitely large. But surely there is a proposition wherein the number of "nots" is inconceivably large. This proposition is the first of those which no-one could consider, nor therefore, believe. Introducing an abbreviating notation (e.g., one expresses "not not \( p \)" as not \( \neg p \)) leaves the situation unchanged, for there comes a point at which the abbreviating number itself becomes inconceivably large.

One cannot hold an infinite number of beliefs, whether conscious or unconscious.

II. The Requirements of Justified Belief

An infinite regress in the justifications of belief is not vicious because it would entail the justified believer holding an infinitely complex belief. The regress would not entail this impossibility.

What is believed is something which is possible to be considered and expressed. But what can neither be considered nor expressed is therefore what one cannot believe, and that which is infinitely complex is what can neither be considered nor expressed. Not even God could express what is infinitely complex, and a belief that not even God could express is surely no belief at all. Likewise if one believes that \( p \), one understands the proposition \( p \). If the proposition \( p \) is infinitely complex, then it is not humanly possible to understand nor therefore believe it.

One must correctly identify the requirements of justified belief to see why the regress would not entail the justified believer holding an infinitely complex belief. What is required for \( S \) to be justified in believing that \( p \) is that \( S \) justifiably believes something (e.g., that \( q \)) which justifies his belief that \( p \).

This threatens an infinite regress. \( S \) must justifiably believe each of what justifies his consequent beliefs, in order to be justified in believing that \( p \). Each of a chain of premises may be something which adequately justifies a belief of the next, and ultimately of the conclusion. But surely \( S \) is unjustified in believing the conclusion if he fails to believe or is unjustified in believing any of the premises. Since the fact that \( q \) must be a justification of \( S \)'s belief that \( p \), and \( S \) must justifiably believe that \( q \) for \( S \) to justifiably believe that \( p \), it is mistaken to identify what makes \( S \) justified in believing that \( p \), either with the fact that \( q \), since it may not be the case that \( q \), or merely with the justifiably held belief that \( q \), since the fact that \( q \) may be no justification for believing that \( p \).

If \( S \) justifiably believes that \( p \) then he must be justified in believing something (e.g., that he has read in the Encyclopaedia Britannica that \( p \)) which justifies his first belief. But it does not follow that \( S \) believes, or justifiably believes, of what he is justified in believing (e.g., that \( q \)) and which justifies his belief that \( p \), that it does justify his belief that \( p \).\(^8\) Nor does it follow that

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\(^6\) Richard Foley, op. cit., pp. 311–312.

\(^7\) Cf. John Pollock, op. cit., p. 25.

\(^8\) Pace Richard Foley, op. cit., p. 313.
there is anything (which \( S \)'s justifiably believes) which is \( S \)'s justification i.e. a proposition which \( S \) does or could offer as a justification for believing that \( p \), or which he has taken as evidence for this belief.\(^9\)

Although \( S \) justifiably believes that he has read in the *Encyclopaedia Brittanica* that \( p \), he may doubt or be unaware that he believes this. Similarly, he may be unaware that he believes that \( p \). In either case \( S \) cannot offer his reading of the encyclopaedia as a justification for believing that \( p \), nor need he believe that reading what he has in the encyclopaedia justifies believing that \( p \).

Suppose that \( S \) is aware both that he believes that \( p \) and that he believes that he has read that \( p \) in the *Encyclopaedia Brittanica*. Nonetheless \( S \) may fail to believe that his reading justifies believing that \( p \) either because he doubts that reading something in the encyclopaedia justifies believing it (he doubts the encyclopaedia's reliability) or because he doubts that he is justified in believing that he has read in the *Encyclopaedia Brittanica* that \( p \).

Nonetheless, \( S \) may justifiably believe that he has read in the encyclopedia that \( p \), where reading that \( p \) in the *Encyclopaedia Brittanica* justifies believing that \( p \). \( S \) may even offer his reading as a justification for believing that \( p \), while doubting or not believing that what he offers as a justification does justify his belief, and be informed by someone more cognizant of the Encyclopaedia's reliability, that it does.

Since \( S \) need not believe \( q \) of what he is justified in believing (that \( q \)) and which justifies believing that \( p \), that it does justify believing that \( p \), in order to justifiably believe that \( p \), \( S \) need not believe that if \( q \) then \( p \) in order to be justified in believing that \( p \) even if his justification for believing that \( p \) is that \( q \).\(^11\)

The requirements of justified belief parallel those of justified action. What is required for \( S \)'s action to be justified is that \( S \) is justified in believing that something is so, where its being so justifies this action.

If \( S \)'s justifiably believes that the pitch is waterlogged and its being waterlogged justifies cancelling the match then \( S \) is justified in cancelling the match. But since \( S \) may be justified in believing that the pitch is waterlogged without being aware that he believes this, the waterlogged state of the pitch need not be his justification, i.e., something which \( S \) does or can offer as a justification.

\( S \) may doubt or not believe that the waterlogged state of the pitch justifies cancelling the match, either because he doubts that he is justified in believing that the pitch is waterlogged, or because he doubts that the waterlogged state of the pitch is enough to justify cancelling the match. Nonetheless, it may be the case both that for the pitch to be waterlogged is enough to justify cancelling the match, and that \( S \) justifiably believes that the pitch is waterlogged. A more knowledgable player may inform \( S \) that waterlogging justifies cancellation.

Just as what one offers or could offer as a justification for an action or belief need not be anything which justifies it, so conversely, what justifies an action or belief need not be anything which one offers or could offer as a justification.

A regress in justification would not entail the justified believer holding an infinitely complex belief. If \( S \) is justified in believing that \( p \) by virtue of believing that \( q \), and justified in believing that \( q \) by virtue of believing that \( r \) and so on then he must be justified in believing each member of the series and each member must be something which justifies believing the next. Only if \( S \) were required to believe of each member that it justifies believing the next, would he be required to hold an infinitely complex belief. For then he would have to believe that believing that \( p \) is justified by \( q \), the believing of which is justified by \( r \), the believing of which . . . and so on *ad infinitum*. But since \( S \) is not required to believe of each member that it justifies believing the next, he is not required to hold a belief of infinite complexity.

### III. Infinitely Complex Beliefs

If the regress were to entail the justified believer holding an infinitely complex belief it would thereby entail his holding an infinite number of beliefs, which is impossible. Hence it is mistaken to identify the viciousness of the regress with its entailing an infinitely complex belief in *preference* to identifying the viciousness with its entailing an infinite number of beliefs.\(^12\)

A belief may be infinitely complex in two ways. First, *per impossibile*, \( S \) believes that \( p \) and that \( q \) and that \( r \ldots ad infinitum*. Here the infinite complexity lies in the infinite number of terms. Second, suppose that

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\(^12\) Pace Richard Foley, *op. cit.*, p. 313.
S first holds the belief that if \( p \) then \( q \), and then holds the belief that if; if \( p \) then \( q \), and \( p \), then \( q \). He would hold an infinitely complex belief if per impossible he then held an infinitely expanded belief i.e., that if if if ... \( ad \) infinitum. Here the infinite complexity lies in the infinite number of relations between terms.

If \( S \) holds a belief which is infinitely complex in this first way, then he holds an infinite number of beliefs, since believing a conjunction entails holding a conjunction of beliefs. A man who did not believe that \( p \) could not believe that \( p \) and \( q \) (and \( mutatis mutandis \) for the belief that \( q \)). Hence, if \( S \) believes that \( p \) and that \( q \) and that \( r \) ... and \( ad \) infinitum, then he believes that \( p \) and believes that \( q \) and believes that \( r \) ... and \( ad \) infinitum.

If \( S \) holds a belief which is infinitely complex in the second way, then he still has an infinite number of beliefs. A man who did not believe that if \( p \) then \( q \) could not be correctly said to believe that if; if \( p \) then \( q \), and \( p \), then \( q \). A man who believes of an infinite number of relations that they hold between terms must believe of each relation, that it holds.

The reductio force of the regress accrues because it would entail the justified believer holding an infinite number of beliefs, and not because it would entail him holding an infinitely complex belief.