Beliefs are justified by coherence

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1   Introduction

There's real news, and there's fake news. But news reports don't come tagged with
labels 'real' and 'fake,' and even if they did come tagged, the labels themselves may
be real or fake. What should we believe? This question is at the heart of epistemology.
It is a question that preoccupied the father of modern philosophy, Rene Descartes
(1596-1650), in his *Meditations*.[1] It is a question that is of the utmost importance to
every individual today. We are constantly bombarded with information that various
groups or persons want us to believe. We need a view about what makes a claim
worthy of belief in order to figure out what we should believe. The debate between
foundationalists and coherentists is a debate over the properties that make a claim
worthy of belief.

When we reflect on the question of what we should believe, two facts spring to
mind. The first is that we have many beliefs. The second is that sometimes we find
that our beliefs are false. We all desire to believe the truth and avoid error. But, how
do we decide which of our beliefs are true and which are false? Can we go through
our beliefs one by one and sort out the true ones from the false ones? Given our vast
number of beliefs, that task is impossible.

Even if we can't evaluate all of our beliefs individually, it does seem that we can
generally distinguish between beliefs that we have good reason for and those that we
don't. Suppose you believe that the President is in New York. Is your belief true?
You believe it because the news reported it. But you ask yourself "why should I take
the news reporting such a thing to be a good reason to believe the President is in

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[1]Descartes (1996/1641)

New York?" Suppose you had a "magic" eight ball and asked it whether the President was in New York.[2] If "yes" floated up in the window, you wouldn't take this as a good reason for really thinking that the President is in New York. Well, what's the difference? When you think about this you soon realize that you have lots of other beliefs about the news, the role of the President, New York, and so on, all of which support your belief that the news can be trusted on this matter. The key insight is that when we think about the reasons for our beliefs we see that our reasons stretch out to a vast number of beliefs that collectively support other beliefs.

Okay, so we see that some reasons are good reasons for believing and others, such as "magic" eight ball answers, aren't. Furthermore, we see that our beliefs work together to support others. But how do we answer our question about what we should believe? Do we try to do this for each of our beliefs individually? Descartes attempted to determine which beliefs he should have by examining all of his beliefs at once. He aimed to suspend judgment on anything he could call into question until he figured out which beliefs are worth having and which should be abandoned. His goal was to find a secure foundation for his beliefs that offered him assurance that each of his beliefs were true. The search for a foundation is quite natural. If you are calculating a large sum and get a result that seems odd, it's best to reduce the large sum to a series of smaller sums that you are sure of and then use those results to recalculate the larger sum.[3] The assurance of the smaller sums provides a base for calculating the larger sum. But the crucial question is whether there is, in general, a foundation for all our beliefs. Foundationalists say "yes"; coherentists say "no."

According to coherentism, we can't set aside all our other beliefs while we evaluate some particular belief. We must rely on some beliefs to evaluate others. As a result, there is no foundation of the kind Descartes sought.[4] Instead, we start with the beliefs we have and revise them in a piecemeal fashion as we reflect and learn new

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[2]For readers unfamiliar with the "magic" eight ball, these are plastic balls made to look like an eight ball from a billiard set. There is a small clear viewing space in the eight ball. Inside of the eight ball is an object, which is suspended in water, with various things written on it such as "yes, definitely," "outcome uncertain," "don't count on it," etc. The way the "magic" eight ball works is that you ask it a question and give it a shake, then you read the answer to your question.

[3]See (Hume 1975/1739-1740, Sec 1.4.1)

[4]A key problem for Descartes is known as the *Cartesian Circle*. Descartes proposed that any belief that is not clearly and distinctly perceived is doubtable, and a belief that is clearly and distinctly perceived to be true is true. But Descartes wondered whether the criterion of clear and distinct perception was itself clear and distinct. If not, then it's not a good criterion for evaluating beliefs. But if it is, then it appears to support itself. Descartes actually thought that one could be deceived about whether something was clearly and distinctly perceived. So, it's far from clear how Descartes' clear and distinct rule could do the work that he needs for his project of finding a secure foundation. For more on the Cartesian Circle see van Cleve (1979).

things. Otto Neurath (1882-1945) helpfully compared the process of evaluating our beliefs with the repairing of a ship at sea. A sailor cannot take the ship entirely apart at sea but must, rather, replace the bad parts by relying on the other parts of the ship to stay afloat.[5] Similarly, we can't overhaul our entire system of beliefs at once and start over with a firm foundation; we have to work with the beliefs that we find ourselves with and make modifications as we go. This insight lies at the heart of coherentism. According to coherentism, the beliefs we should have (those that are justified) are the ones that fit together into the best overall system of beliefs, and these justified beliefs get their justification by cohering with the other beliefs in this system.

2 Intuitive Support for Coherentism

Coherentism fits well with the fact that we must evaluate our beliefs from some existing perspective. There isn't a point where we think about what we should believe without already having some beliefs. We cannot start from scratch by laying a foundation and then building a structure on a secure base. The only way to proceed is to start with one's own perspective and adjust it to make that perspective both broader and more coherent. In this section we offer three intuitive cases to support coherentism.

2.1 Case 1: Scientific Practice

Consider how scientists reason when a well-confirmed theory seems to conflict with a given observation. Do they scrap the theory and start over? No. They double-check the measurements to ensure the correctness of the problematic observation. If the observation is accurate, they modify the theory or auxiliary assumptions to restore coherence.

The planet Neptune was discovered by coherence reasoning. Newton's theory predicted an orbit for Uranus that differed from astronomical observations. Two 19th century British astronomers restored the coherence between Newton's theory and these observations by positing that a planet existed with a certain mass and distance that would account for the otherwise problematic orbit of Uranus. When they trained their telescopes in the direction of where this planet should be, they discovered Neptune.

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[5]See Neurath (1932)

Crucially, this process of adjustment proceeds toward finding the best fit between the observation, the theory, and the rest of one's beliefs. Similarly, when we evaluate our beliefs we don't scrap them anytime we become aware of a conflict. In this sort of situation, we determine which of the conflicting beliefs is the poorest fit with our other beliefs and change it.

2.2   Case 2: Rumors

Consider another situation. Suppose you have a friend that you've known for years. Recently, some people have begun to spread vicious rumors about his character. Given everything you believe about him, you judge that the rumors must be false. You are asked to give your reasons: while you can offer a good argument based on past experience, you are hard-pressed to offer reasons that are unquestionably true such that the proponents of the rumors would be forced to accept them. Rather you appeal to your thousandfold experience with your friend to dismiss the rumors. In other words, you have a set of beliefs and experiences about your friend. When you learn about the rumors, your new beliefs are in tension with your other beliefs. The rumors can't be true given what you believe about your friend, but, if the rumors are true, your beliefs about your friend's character must be false. So, how should you revise your beliefs? Well, it would be wrong to scrap all of your beliefs about your friend and start from ground zero. No, you consider which set of beliefs is the most coherent?the one that couples your beliefs about your friend together with the belief that the rumors are true or the other that couples your beliefs about your friend together with the belief that the rumors are false. It turns out that the latter is the more coherent set. That's why you dismiss the rumors about your friend as just that?merely rumors. This is reasonable to do, and the beliefs that you are left with are ones that are justified.

2.3   Case 3: Eyewitness Agreement

Suppose you hear from an acquaintance that a very surprising event occurred. On the night of a recent election, a large comet appeared at the stroke of midnight and its sonic boom was loud enough to shake the dormitory. You find this doubtful. This person may be making it up or misperceiving a fireworks celebration. So, you reject this claim. But a curious thing happens. More and more people begin to report this event. There was a streak of light followed by a sonic boom. As more and more people begin to report this event, you are compelled to accept that it is true.

C.I. Lewis (1883-1964) pointed out that when we discover that independent

witnesses agree with one another about what happened, it gives us very strong reason to think that the event really happened in the way that they say. It is the coherence of the reports that provides the reason, not the individual reports themselves, each of which is not believable on its own. Coherentism applies this thinking to our beliefs in general. When our beliefs cohere with one another, the coherence of our beliefs gives us strong reason for thinking that our beliefs are true.[6]

3   The Nature of Coherence

So far we have described some of the intuitive reasons in support of coherentism. These reasons support two crucial coherentist claims. First, there is no secure foundation upon which to assure ourselves of the truth of the rest of our beliefs. Second, coherence among our beliefs and experiences can provide an excellent reason to think our beliefs are true. A crucial issue about the second claim concerns the nature of coherence. We haven't yet said what exactly coherence is. This is obviously a critical concept when it comes to coherentism, so we will turn to this now.

An early attempt to spell out the nature of coherence was in terms of logical entailment. Brand Blanshard (1892–1987) wrote, "Fully coherent knowledge would be knowledge in which every judgment entailed, and was entailed by, the rest of the system."[7] A.C. Ewing (1899–1973) weakened this so that each proposition in a system only had to be entailed by the rest. C.I. Lewis weakened the requirement even further by shifting from logical entailment to probabilistic support with his notion of congruence:

> A set of statements ... will be said to be congruent if and only if they are so related that the antecedent probability of anyone of them will be increased if the remainder of the set can be assumed as given premises.[8]

Ultimately, though, these early approaches are problematic, so they have been abandoned for a much more promising approach.[9] The most plausible way of understanding what it means for beliefs to cohere is in terms of explanatory relations. The explanatory approach to coherence is the idea that beliefs cohere with one another

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[6]Of course, not everyone accepts this sort of connection between coherence and likelihood of truth. See Olsson (2005), but also see Huemer (2011) for a compelling response in support of coherentism.

[7](Blanshard 1938, 264)

[8](Lewis 1946, 338)

[9]See chapter 5 of McCain (2016) for an accessible discussion of some of problems plaguing these early approaches to coherence.

by forming an explanatory system—i.e., they help explain one another and new information that we encounter. Consider the case of eyewitness agreement above. The truth of the reports is the best explanation of the fact that so many independent eyewitnesses report the same event.

Laurence BonJour (1943–) provides a clear statement of coherence in terms of explanatory relations. His list of principles explicating the nature of coherence gives an important role to explanation:

1. A system of beliefs is coherent only if it is logically consistent.

2. A system of beliefs is coherent in proportion to its degree of probabilistic consistency.

3. The coherence of a system of beliefs is increased by the presence of inferential connections between its component beliefs and increased in proportion to the number and strength of such connections.

4. The coherence of a system of beliefs is diminished to the extent to which it is divided into subsystems of beliefs that are relatively unconnected to each other by inferential connections.

5. The coherence of a system of beliefs is decreased in proportion to the presence of unexplained anomalies in the believed content of the system.[10]

Explanatory coherence is an intuitive way of understanding justification. At its root, explanatory reasoning aims to fit together a group of claims that otherwise appear disconnected. In the most simple case, we have a surprising claim, q, and we note that if p, then q because p. That is to say, we recognize that the truth of p would provide an explanation of the truth of q that is both simple and fits with our background information. In such a case, accepting p and q as well as the fact that q because p increases the coherence of our system of beliefs.

Humans are in the business of explaining things. We engage in explanatory reasoning all the time. As we noted above, we use explanatory reasoning to determine who to trust—our friend or the rumormongers. We use explanatory reasoning to solve crimes, diagnosis illnesses, and simply function in our daily lives. According to some psychologists, there is evidence from across cultures that explanatory reasoning is involved in "our activities from the most simple and mundane . . . to the most

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[10](BonJour 1985, 95–99). For recent defenses of explanatory approaches to justification that are similar to, but importantly different from, BonJour's see McCain (2014) and Poston (2014).

sophisticated and unusual."[11] In fact, there is reason to think that our explanatory reasoning begins at a very young age, perhaps infancy.[12] We employ explanatory reasoning so often and so routinely that if we don't stop to reflect carefully on how we are reasoning, we are apt to not even notice. This is how we manage our beliefs, and, when we do it well, the coherence of an explanatory system yields justification.

4 The Structure of Justification

Up to this point we have given three intuitive cases for coherentism and discussed the nature of coherence. It is widely recognized that coherence can provide a good reason for a subject to believe a claim. What is more controversial is whether there is a foundation for belief. In this section and the next, we give several powerful considerations that there are no foundations.

Coherentism is one of several views about the structure of justification. These views have been discussed since antiquity by Aristotle (384–322 B.C.E.) and Sextus Empiricus (2nd or 3rd century C.E.), and likely many others.[13] The structure of justification is the structure of reasons for our beliefs, a structure made clearer by consideration of the problem of the regress of reasons. The regress problem begins with a natural question about a particular belief, say, your belief that p. The question is: why do you believe p? Or, put another way, what's your reason for believing p? You might respond that some other proposition, q, is your reason for p. So there's a path from p to q such that your right to believe p depends on your right to believe q. But, what's your reason for q? To this you might respond, r. But, what's your reason for r? It's easy to see that in addition to being annoying this series of questions could go on indefinitely.

The regress problem is that it seems that we can't have good reason to believe anything because the regress leads to skepticism. Here's why. Assume that your belief that p is justified. Since it is, you must have a good reason for believing p. Call this reason q. In order for q to be a good reason for believing p, q must itself be justified. This means that you must have a good reason for believing q—call this reason, r. But, r will have to be justified too, so you will have to have good reason for believing r. And so on. It seems at this point we are left with three possibilities: (a) the regress of reasons ends—there is some justified reason which doesn't itself require a good reason for accepting it, (b) the regress circles back on itself—so, r is

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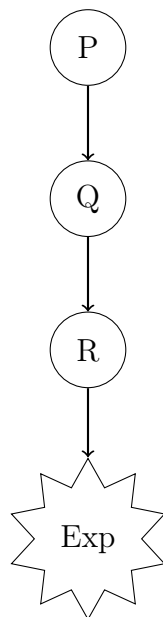[11](Keil and Wilson 2000, 80). Cf. Wilson and Keil (1998).

[12]See Brewer et al. (1998) and Keil and Wilson (2000). (Poston 2014, 74-76) argues that the concept BECAUSE is a primitive concept and one that occurs very early in cognitive development.

[13]See Aristotle *Posteriori Analytics* I.2; and Sextus Empiricus *Outlines of Skepticism* Book I.xv.

your reason for q, q is your reason for p, and p is your reason for r, or (c) the regress never ends—it's infinite.

We'll use diagrams to make this clearer.[14] The arrows represent the path of reasons. An arrow from p to q indicates the reason for p is q. Thus, p's justification depends on q.
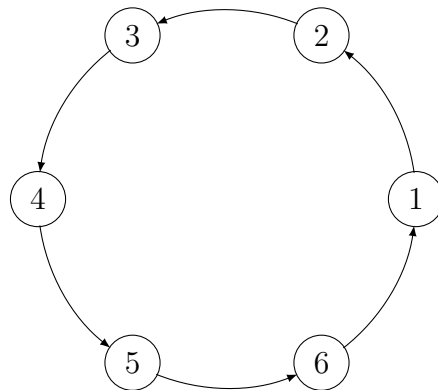
4.1 Option A: The Regress Ends at a Foundation

This graph shows that there is a path of reasons from beliefs (in circles) to experience (the star). The belief that p is supported by the belief that q, which is supported by the belief that r, which itself is grounded in an experience. According to foundationalism, the regress of reasons ends with something that is not a belief and is capable of supporting a belief. The foundationalist claims that experience is an appropriate stopping point to the regress because (1) experience can support belief and (2) experience doesn't itself require support.
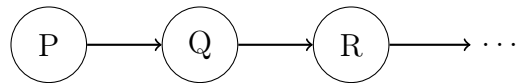
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[14]See Berker (2015) for more detailed graphical depictions of coherentism and other views of the structure of justification.

4.2 Option B: The Regress of Reasons Circles on Itself

Option B illustrates a chain of reasons in which each claim depends on the next. The belief that 1 is supported by the belief that 2 which is supported by the belief that 3, ..., which is supported by the belief that 1. Aristotle noted that, although some philosophers have endorsed such reasoning, it is inadequate because it would prove anything and thus fail to distinguish between claims we have good reasons for and claims we do not have good reasons for.

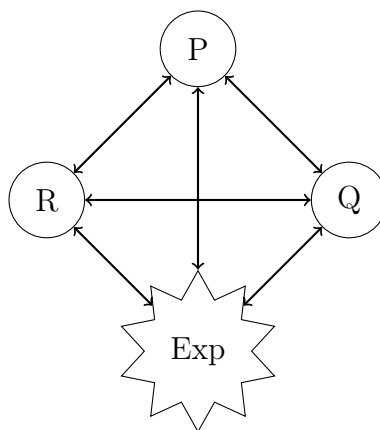## 4.3 Option C: The Regress of Reasons is Endless

Here the "..." indicates that the regress of reasons goes on forever; every proposition is supported by another without end. On this option, there is no foundation and every claim is defended by a distinct claim.

The skeptic claims the regress of reasons leads to skepticism. Against foundations, the skeptic argues that any reason that supports another must itself be supported and thus stopping the regress with unsupported experience is not adequate because justification rests on an unsupported posit. Against circles, the skeptic argues that p can't be part of the chain of reasons that justify p. Against an infinite regress, the skeptic argues that there's never any justification to get started?it's like saying that the next person in line will pay the dinner bill; if the line of customers is infinitely long the restaurant will never get paid! So, the skeptic claims that our initial assumption that your belief that p is justified must be false. But this problem afflicts all of your purportedly justified beliefs. Hence, the skeptic claims, none of your beliefs are justified!

4.4   Coherentism: There is No Regress at All

Coherentism offers an elegant response to the regress of reasons. All three options, (a) foundation, (b) circle, and (c) endless regress, assume that the relation of support proceeds in a straight line from one proposition to another. In other words, the regress of reasons rests on the unchallenged idea that when p is justified for you, it is because of your reason q which in turn is justified because of r, and so on. Coherentism denies this assumption. According to coherentism, your belief that p is justified because it fits well with everything else you believe. The skeptical response to the regress of reasons takes it for granted that justification must be linear, but the coherentist claims that it can be holistic.

This graph offers a picture of perfect holistic coherence in which each node of beliefs and experience is supported by each other node. The thought here is that p is justified because p is part of a system of beliefs and experiences that fit together in such a way that the overall system is coherent.[15] The same is true of q and r. On this picture, there is no regress of reasons. Instead, justification occurs when there is sufficient coherence among the members of the set of beliefs and experiences. Let us underscore the fundamental point: it is the entire system of beliefs and experiences bearing the appropriate relations of mutual support that ultimately gives us a reason for accepting p.[16]

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[15]A common misunderstanding concerning coherentism is that only coherence among beliefs matters. Coherentism isn't restricted in this way, however. Although experiences do not justify beliefs on their own, experiences are an integral part of the best explanatory system. See Kvanvig and Riggs (1992) for a thorough discussion of this point.

[16]See BonJour's definition of the coherence relation.

A few additional remarks. The coherentist argues that ultimately justification isn't a matter of a chain of reasons at all; it's the coherence of the entire system that generates justification. In contrast, the foundationalist holds that we can stop the regress of reasons by anchoring the chain in experiences, which they claim provide reasons without requiring reasons for themselves. Relatedly, the coherentist distinguishes *local* from *global* justification. On a local level—i.e., in a specific context—justification is like the foundationalist says but with justification ending in a contextually agreed upon stopping point. But on a global level, foundationalism is wrong. The next section will show that there are serious problems for the foundationalist's reliance upon experiences to stop the regress of reasons.

5 Two Related Arguments for Coherentism

Two arguments, related to the regress of reasons, challenge the foundationalist's reliance on experience. Since they expose problems for coherentism's chief rival without posing similar problems for coherentism, these arguments provide additional support for coherentism.

5.1 The Problem of Experience

The first argument is what we call the *problem of experience*. This argument comes from the work of Wilfred Sellars (1912–1989).[17] Here's the argument:

1. Experience provides a subject with a reason for believing that p only if experience supports the belief that p.

2. Experience supports a belief that p only if experience has in part the content that p.

3. If experience has in part the content that p then the content of that experience can be either true or false.

4. If the content of the experience can be true or false, then either one has a reason to believe the content is true or accepting the truth of the content of the experience is arbitrary.

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[17] See in particular 'Empiricism and the Philosophy of Mind' in Sellars (1963). Sellars' argument is known as 'The Sellarsian dilemma'. See chapter 5 of Poston (2014) for discussion and defense of this dilemma.

5. If one has a reason to believe the content of the experience is true, then the experience does not provide an end to the regress of reasons.

6. If accepting the truth of the content of the experience is arbitrary, then the experience does not provide an end to the regress of reasons.

7. Therefore, experiences do not provide an end to the regress of reasons.

The heart of the problem of experience is that foundationalists claim that the regress of reasons ends with experiences. Foundational beliefs are justified directly by experiences. However, the problem of experience makes a strong case for thinking that either experiences themselves require reasons in order to provide justification for beliefs, or relying on them to stop the regress is picking an arbitrary stopping point. Either way foundationalism seems to be in serious trouble.

This is not a problem shared by coherentism. According to coherentism, experiences can support beliefs and there is a good reason to trust experience. Our perspective with respect to beliefs based on experience includes a vast store of beliefs about the correctness of experiential beliefs. Nevertheless, coherentism doesn't commit to the idea that an experience can justify beliefs on its own. As a result, coherentism doesn't allow that experience can stop the regress of reasons, but as we've already noted, it doesn't need to stop the regress. The holistic perspective of coherentism doesn't allow the regress to get started in the first place.

5.2   The Problem of Arbitrariness

The second argument exposing an advantage of coherentism over foundationalism, we call the *problem of arbitrariness* as it rests on what Peter Klein (1940 –) calls the *Principle of Avoiding Arbitrariness* (PAA).[18] Here's the argument:

1. A belief that p is justified only if there is some good reason available to the subject for p. (PAA)

2. A foundational belief implies that there is no available reason for the subject for that belief.

3. Therefore, foundational beliefs are not justified.

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[18]See Klein (1999)

The problem for the foundationalist is that whichever beliefs form the foundation, which is supposed to be the stopping point for the regress of reasons, appear to be arbitrary from the perspective of the subject with those beliefs. It is hard to see how foundationalism can both stop the regress of reasons and respect (PAA). Presumably, foundationalists must deny (PAA), but this is an intuitively plausible principle. As a result, the problem of arbitrariness is a significant problem for foundationalism.

Again, coherentism doesn't share this problem. Coherentists can accept the PAA while avoiding the regress of reasons. As we noted above, coherentists deny a key assumption of the regress of reasons (an assumption that foundationalists accept). Consequently, coherentism responds to the regress of reasons without incurring the problem of arbitrariness.

6   Conclusion

Coherentism is a plausible solution to the regress problem. It is vitally important that we reflect on the reasons for our beliefs and decide which beliefs are to be trusted and which are to be doubted or abandoned. This challenging task forces us to acknowledge the way in which beliefs and experiences fit together to support or challenge another belief. If we are honest with ourselves we all know that our beliefs are not fully coherent. There are tensions among our beliefs that we hope to work out. Moreover, we all know that there are many important areas that we want to have true beliefs about. According to coherentism, we ought to continue to inquire, aiming for the goal of a complete and coherent body of beliefs about matters of vital interest. As we bring our beliefs into coherence and expand our beliefs on important matters, we aim to achieve a deep human goal: understanding.

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