

Diachronic Coherence vs. Epistemic Impartiality*

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1. Diachronic Coherence in Epistemology

It is obvious that we would not want to demand that an agent's beliefs at different times exhibit the same sort of consistency that we demand from an agent's simultaneous beliefs; there's nothing irrational about believing P at one time and not-P at another. Nevertheless, many have thought that *some* sort of coherence or stability of beliefs over time is an important component of epistemic rationality.

One popular way of relating an agent's beliefs at different times involves the principle of Conservatism, according to which the fact that I currently believe P gives me some epistemic justification for continuing to believe P. Clearly, Conservatism does not preclude me from rationally believing P at one time and not-P at another. But it does seem to put some intrinsic epistemic value on my maintaining diachronic coherence or stability of belief.¹

A related principle, central to Bayesian accounts of justification, is codified in learning by Conditionalization. Suppose I put the probability of some hypothesis H at .5, but that I also think

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¹ I'll use the term 'coherence' in an informal way to refer to various relations of fitting together among beliefs.

that some evidential proposition E is highly relevant to H. In particular, suppose that I think that the probability of H, on the supposition that E is true, is .9. A simple version of Conditionalization would require that if I learn for certain that E is true (and I don't learn anything else), my new probability for H should be .9. In this case, the requirement of Conditionalization amounts to the requirement that my conditional degree of belief in H given E remain constant. Now conditional degrees of belief might reasonably be thought to be importantly different from ordinary degrees of belief (on the standard account, they are ratios of ordinary degrees of belief). Still, the basic intuition here seems to flow from assigning a positive epistemic value to diachronic coherence. Indeed, some of the discussion of belief-change rules in probabilistic epistemology centers explicitly on the question of which of various belief-change principles represent “minimal change.” It seems to be a presupposition of this discussion that minimizing change is something we want a belief-updating rule to do.

A more recent, and more controversial, proposal in Bayesian epistemology would require my present beliefs to cohere in a certain way with beliefs I expect to have in the future. The principle of Reflection would require that my present probability for H, on the assumption that my future probability for H will be n, must now be that same number n.² In a strict sense, Reflection does not require my present beliefs to cohere with the beliefs I will in fact have in the future. But in requiring my present beliefs to cohere with the beliefs I *expect* to have, Reflection at least appears to answer to some intuition that diachronic coherence is an epistemic good.

² See Bas van Fraassen, “Belief and the Will,” *Journal of Philosophy* 91 (1984): 235-256.

All of these principles have been criticized. Reflection, in particular, leads to intuitive absurdities when one considers future beliefs one expects to form non-rationally. (For instance, the mere fact that you are certain that you'll form some particular belief in the future should not require you to have that same belief now.)³ The principles of Conservatism and Conditionalization have been more widely embraced. But they, too, have been criticized. It has been argued that they would illegitimately grant epistemic credit for maintaining beliefs irrespective of their justificatory status.⁴

The controversies surrounding these principles touch on a common question: does diachronic coherence of belief, in any form, constitute a requirement or desideratum of (at least ideal) rationality? If some form of stability or coherence of beliefs across time is a rational requirement, or even a desideratum, one might expect to be able to say something about why this should be so. In the following sections, I'll try to identify the root intuition behind the demand for diachronic coherence principles, and argue that it both points to standard counterexamples and suggests a way of avoiding these counterexamples by means of a *ceteris paribus* condition. I'll

³ See W.J. Talbott, "Two Principles of Bayesian Epistemology," *Philosophical Studies* 62 (1991): 135-150; D. Christensen, "Clever Bookies and Coherent Beliefs," *Philosophical Review* 100 (1991): 229-247; and P. Maher, *Betting on Theories* (New York: Cambridge University Press, 1993). Luc Bovens suggests an alternative diachronic coherence principle designed to capture what is intuitively reasonable in Reflection without the unacceptable consequences in "P and I Will Believe that not-P: Diachronic Constraints on Rational Belief," *Mind* 104 (1995): 737-760. Bovens' idea will be discussed below.

⁴ See I. Levi, "Probability and Evidence," in M. Swain, ed., *Induction, Acceptance, and Rational Belief* (Dordrecht: D. Reidel, 1970); R. Foley, "Epistemic Conservatism," *Philosophical Studies* 43 (1983): 165-182; R. Feldman, review of G. Harman's *Change in View*, *Philosophical Review* 98 (1989): 552-556; and D. Christensen, "Conservatism in Epistemology," *Noûs* 28 (1994): 69-89.

then argue that, even in this qualified form, the demand for diachronic coherence is misplaced. Finally, I'll defend a general condition on epistemic principles that is incompatible with valuing diachronic coherence.

Before proceeding further, however, a clarification is in order. The issue I propose to study is whether some form diachronic coherence is a purely epistemic desideratum. There may often be, for example, clear pragmatic reasons to stick with one's beliefs. For instance, when one is finding one's way out of a burning building, changing one's beliefs--or even thinking hard about the justification of one's beliefs--may be very costly. Lawrence Sklar explores (but does not ultimately defend) the idea that a form of epistemic Conservatism can be founded on the pragmatic costs of belief change, and William Lycan has developed and defended such an approach at length.⁵

The main challenge for this sort of approach is to avoid collapsing the distinction between epistemic and practical rationality. Examples such as Pascal's wager convince many that the two diverge. But if the pragmatic goal of avoiding the costs of belief change is to ground diachronic coherence as an epistemic principle, it is hard to see why other pragmatic concerns would not ground epistemic principles favoring, for example, optimistic beliefs, or beliefs that unrealistically exaggerate one's good qualities.⁶ I cannot go here into the broader issues surrounding the divide

⁵ The burning building example was suggested by an anonymous reader. Sklar's suggestion is in his "Methodological Conservatism," *Philosophical Review* LXXIV (1975): 186-191; Lycan's position is in his *Judgment and Justification* (Cambridge, UK: Cambridge Univ. Press).

⁶ See S. E. Taylor, *Positive Illusions: Creative Self-Deception and the Healthy Mind* (New York: Basic Books, 1989) for some of the impressive evidence for the pragmatic benefits of certain sorts of unrealistic beliefs.

between pragmatic and epistemic rationality. Here I just want to note that I will work within the (admittedly arguable) assumptions that the two can be separated, and that demands for diachronic coherence as a component of epistemic rationality should, if they are to be accepted, be given a distinctively epistemic grounding.⁷

2. Backward-Looking Coherence and Learning

The fact that a rational agent's beliefs need not cohere diachronically in the same way that her simultaneous beliefs must cohere is a natural consequence of an elementary fact about rational belief: that a large part of having rational beliefs is having beliefs that reflect what one has learned, and one typically learns more as time goes on. As one encounters new evidence some of one's beliefs should change. Of course, the changed beliefs will typically be incoherent (in the sense relevant to simultaneous belief) with one's earlier beliefs about the same propositions.

But this very same elementary fact about rational belief seems to underlie the fundamental reason that some diachronic coherence demands are so intuitively appealing. While I want my beliefs to continue reflecting my evidence as it accumulates, I have no special "evidence storage compartment" in my mind to save it all in. Rather, it is *my beliefs themselves* that are my main repository of past learning. In fact, it's not even that my beliefs preserve my evidence fairly directly, by being about that evidence. Often, what I remember is the conclusions I've drawn from my evidence, and the evidence itself is long forgotten.

⁷ For a more thorough critical discussion of Lycan's position see Christensen, "Conservatism in Epistemology."

Thus it seems that if I were somehow to disregard my present beliefs in forming my new ones, the results would be disastrous. I would in effect be severing my epistemic ties with the world, and discarding wholesale the fruits of past cognitive labors. To preserve my store of learning simply *is*, in great measure, to preserve my beliefs. And because of this, some sort of coherence with today's beliefs seems to be a necessary feature of tomorrow's beliefs, if tomorrow's beliefs are to be worth having.

Now one thing to notice about this sort of foundation for diachronic coherence demands is that the coherence it supports is what might be called "backward-looking." It suggests that an agent should form her new beliefs in a way that makes them coherent with her old ones. (The term is meant to suggest that in assessing the rationality of adopting a belief, we should look back to determine its coherence with earlier beliefs.) But information-preservation considerations do not naturally support a "forward-looking" principle to the effect that an agent should form beliefs so as to make them coherent with the beliefs she'll have at a later time.⁸ Since the learning-preservation considerations discussed above seem to support backward-looking coherence demands only, I will concentrate on principles of this sort.

⁸ Valuing the forward-looking sort of coherence may seem implicit in the principle of Reflection. If forward-looking coherence were an intrinsic epistemic value, then a present belief that one would believe P in the future would seem to provide epistemic reason for currently believing P. Richard Foley ("How Should Future Opinion Affect Current Opinion?," *Philosophy and Phenomenological Research* 54 (1994): 747-766) agrees with those who reject Reflection as a general requirement of rationality. What plausibility Reflection enjoys, he argues, does not flow from any legitimate demand for diachronic coherence; indeed, he concludes that "there isn't anything inherently desirable about diachronic coherence" (766).

Foley's arguments seem to me to present good reasons for thinking that forward-looking coherence is not intrinsically desirable, and *a fortiori*, that there is no "bi-directional" epistemic imperative to keep one's beliefs coherent over time. But the failures of Reflection do not speak to the possibility of backward-looking coherence being an epistemic desideratum.

Let us look first at a well-known defense of Conservatism. Gilbert Harman has pointed out that the fact that we cannot remember the evidence that originally prompted so many of our apparently reasonable beliefs makes it unattractive to require remembering our original evidence as a condition of being justified.⁹ For example, I believe that the population of India is greater than that of the U.S., but I cannot remember why I came to believe that. Harman uses this sort of example to support the following principle of diachronic rationality:

Principle of Conservatism One is justified in continuing fully to accept something in the absence of a special reason not to. (ibid. 46)

Now I think that I should maintain my belief about India. And the reason for this flows directly from the fact that I have reason to suppose that I formed that belief in a reliable manner. My geographical pronouncements are not generally corrected or ridiculed. Moreover, I've been in the sorts of situations--attending school, reading newspapers, having conversations with colleagues and having a family with Indian connections--that would afford many opportunities for me to form beliefs on India's population in a reliable way, and to discover false beliefs. Thus I have reason to suppose this particular belief to have been formed in a reasonable way, based on evidence. However, whether this evidence was in the form of being told by my mother, reading it in the newspaper, or learning it in school, I do not know. So the only way to preserve the benefits of my having had the evidence is by maintaining the belief itself. And in doing this, it might seem, I would be maintaining the belief just on the basis of the fact that I have the belief

⁹ *Change in View* (Cambridge, MA: MIT Press, 1986): 38-39.

now. This suggests--at least at first blush--taking Conservatism as a principle of rationality. Thus the need to preserve information makes attractive this principle of diachronic coherence.

A similar point applies to Conditionalization. The reasonableness of attractive instances of conditionalization seems to flow directly from the reasonability of maintaining the relevant conditional degrees of belief. And these conditional degrees of belief are valuable because they reflect past learning experiences.

But if these coherence demands are ultimately grounded in the desirability of preserving learning, one might expect that they would lose plausibility in cases where maintaining coherence would not help preserve learning. In the next section, I would like to look at some cases of this type, and assess how they bear on the demands for coherence.

3. Counterexamples and Coherence *Ceteris Paribus*

Let us begin by considering a case in which I have a belief about the world that is not, as far as I can tell, the product of any evidence I now have (or ever had). Suppose that my wife is pregnant, and I form the belief that the child she is carrying is a girl. But it's not that I caught a glimpse of it in the ultrasound picture, or that we have any family history of predominantly female children, or that I believe myself to have mystic communion with the baby. I don't consider myself to have any justification for forming this belief; I simply form the belief capriciously, or perhaps on the basis of wishful thinking. In such a case, my belief does not reflect any learning on my part. And, naturally enough, in this case we do not have the intuition that the fact that I currently have the belief gives me reason to maintain it.

Another example involves a friend whom I consider to be as expert as I am about a certain field. Suppose I find that he and I differ on some belief in this field--he believes that mackerel are bigger than pickerel, and I believe the reverse. Suppose further that neither of us is more confident in his belief, or more able to support it. In such cases, it would seem that I have no more reason to retain my belief than to adopt his. I should suspend belief or, in degree-of-belief terms, accord the propositions equal credence.

These sorts of cases seem to provide counterexamples to Conservatism. Similar examples could be constructed for Conditionalization, for instance involving a conditional degree of belief that was acquired by some non-rational process. What these examples suggest is that there is, after all, nothing intrinsically epistemically desirable about diachronic coherence, even of the backward-looking variety. If this is right, then even examples such as the one involving my belief about the population of India should not be seen as favoring diachronic coherence. My reasons for maintaining that belief are on this view exhausted by my reasons for thinking my present belief likely to be accurate. Diachronic coherence here is just a byproduct of the true epistemic desiderata.

However, this assessment of what the examples teach us might well be challenged. For the counterexamples to the demands for coherence might be thought to share a serious weakness: in each case, the force of the example derives from evidence of defect in the agent's initial belief system. In the friend's belief case, I have significant evidence that my mackerel/pickerel belief is false. In the baby case, I have evidence that my belief was formed irrationally. Now even the most ardent defender of Conservatism, it might be urged, wouldn't advocate conserving beliefs we have reason to think defective. Diachronic coherence, it might be argued, yields only *prima*

facie warrant; the principles of diachronic coherence must be understood to apply only *ceteris paribus*.

Now this sort of a defense of diachronic coherence will involve some subtleties. First, one cannot always respond to counterexamples to one's favored principles by claiming violation of *ceteris paribus* conditions. If the *ceteris paribus* conditions are *ad hoc*, one's claim to be defending interesting principles will be vitiated. But in the present case, the *ceteris paribus* condition is natural enough. The claim is that, in the absence of reason for thinking one's present beliefs to be defective, coherence with those beliefs is an epistemic desideratum to be considered in forming one's future beliefs. This type of coherence principle would seem to fit particularly naturally with seeing the value of coherence to be ultimately grounded in the need to preserve the learning one's beliefs represent.

The issue of grounding for diachronic coherence principles brings up another question, however. It might be pointed out that on the proposed view, what is epistemically valuable is not ultimately coherence itself. This is perhaps implicit in the very idea of grounding a coherence principle in the need to preserve learning. I think that, in an important sense, this point is correct: there is a sense in which we have already seen that coherence, in itself, is not an ultimate epistemic value. But the fact that an epistemic principle is grounded in some more basic concerns does not preclude it from being an interesting, and even relatively basic, epistemic principle. (One might compare the status of general rules of conduct as seen by a rule utilitarian.) Thus it would indeed be important and interesting if some deeper ground could support a general principle--even a *ceteris paribus* principle--favoring backward-looking coherence in belief-revision.

Such a principle would, after all, apply to the vast majority of our beliefs. In cases where we have no reason to think our beliefs defective, it would apply to all of our beliefs. And even in the odd sorts of cases described above, where we do have reason to think that particular beliefs are false or irrationally formed, we should apply the principle to the rest of our beliefs, which we have no reason to suspect. Such a principle would seem to support Conservatism and Conditionalization where they intuitively should be applicable. And it would deliver the intuitively attractive verdict that, when one's beliefs are not suspect and one learns nothing new, one should stick with the beliefs one has.

4. Diachronic Coherence vs. Epistemic Impartiality

Is there, then, a *ceteris paribus* epistemic principle favoring diachronic coherence? It is a bit difficult to study this question by thinking about test cases. In cases where an agent has reason to think her belief defective, the *ceteris paribus* clause prevents our intuitive judgements from counting against coherence principles. On the other hand, when, as in the population of India case, an agent's background beliefs give her reason to think her belief reliably produced, she will have some reason to maintain that belief independent of coherence considerations. Thus such cases cannot provide strong support for coherence demands. What one would like to find, then, is cases in which (1) coherence considerations aside, an agent has at her disposal an epistemically reasonable option for changing her beliefs, but (2) she does not also have evidence that her current beliefs are defective. Finding such cases, however, is a bit tricky, for typically, situations in which it is reasonable to change one's beliefs involve having reason to distrust one's present beliefs.

Nevertheless, by indulging in a bit of science fiction, I think that we can construct a variant of one of the examples considered above that will prove revealing. Suppose that I have a serious lay interest in fish, and have a fairly extensive body of beliefs about them. At a party, I meet a professional ichthyologist. Although I of course believe that she shares the vast majority of my beliefs about fish, I know that she can probably set me straight about some ichthyological matters. However, I don't want to trouble her by asking a lot of work-related questions. Fortunately, I have a belief-downloader, which works as follows: If I turn it on, it scans both of our brains, until it finds some ichthyological proposition about which we disagree. It then replaces my belief with that of the ichthyologist, and turns itself off.

This example seems to be a case in which I have excellent epistemic reason to use the downloader, and thus to change one of my beliefs, yet in which I have no belief that I have reason to think defective. But as it stands, it poses no clear threat to principles favoring diachronic coherence. For it might seem that this was not a case in which maintaining coherence had *nothing* to be said for it, only a case in which the desirability of maintaining coherence was *outweighed* by the desirability of sharing the ichthyologist's superior knowledge.

But the ichthyologist represents one end of a spectrum of cases. We can consider other agents whose fish-beliefs I have reason to think are a bit better informed, just as well informed, a bit less well informed, or much less well informed than mine are. And it seems to me that in any case in which I have reason to think the other agent is better-informed, it will be epistemically rational to use the belief-downloader. When I have reason to think the other agent is less well-informed, it will be epistemically irrational. And when my evidence indicates that the other agent

is just as well-informed as I am, it will be a matter of epistemic indifference whether I use the belief-downloader or not.

If that is correct, then we do seem to have an example in which backward-looking coherence counts for nothing. The epistemic desirability of the various contemplated changes of belief seems to derive from the expected accuracy of the beliefs to be adopted, not from the adopted beliefs' coherence with my present beliefs. Moreover, the case is not of the sort covered by the *ceteris paribus* clause; as noted above, I have no belief which I have reason to think defective.

If the example involved the supposition that I know that a certain one of my beliefs is contradicted by the other agent's belief, it would fail to make the point. For in such a case, I would have reason to doubt my present belief before using the downloader. In such a case it might seem that, at the point of using the downloader, I should already have suspended the suspect belief. But in the present example, I have no such information about any of my beliefs, and thus no reason to suspend any current beliefs before using the downloader.

Of course, the example does depend on my giving credence to the possibility that I'm fallible, and that others have learned more about fish than I have. But to take this attitude toward one's beliefs is just part of being minimally sane; to deny such a claim about virtually any subject would itself be highly irrational. So acknowledging this fact about one's beliefs cannot constitute "having reason to think one's beliefs defective" in any sense relevant to our *ceteris paribus* clause, if we are to have anything like an interesting diachronic coherence principle.¹⁰

¹⁰ One might object that, after the belief-downloading, my new belief would give me some
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One might object that the situation envisaged in the example--having an opportunity to use the downloader on another agent whose beliefs one has reason to think are as reliable as one's own--is not the correct one to use in testing the *ceteris paribus* coherence principle. Perhaps coherence considerations are irrelevant in the example situation because straightforwardly reliability-oriented considerations can be brought to bear, even if they are balanced. However, having good reason to think another agent is just as reliable as one's self is clearly not the same thing as *lacking* significant information about another agent's reliability. And it might be suggested that considerations of coherence come into play not when considerations of reliability are balanced, but rather when they are absent. Could we test the *ceteris paribus* coherence principle by imagining a case in which, as before, I have a belief on a certain topic for which I've forgotten my evidence, but in which I have a chance to use the downloader on agent about whose reliability I have no information?¹¹

In order to test our intuitions in a such a case, it is necessary first to imagine a concrete instance. First, note that we cannot use a case like the one involving my belief about my wife's baby, where my background beliefs make it highly unlikely that my belief was acquired in a

¹⁰(...continued)

reason to think that my initial belief had been mistaken. Thus, it might be argued, the coherence principle shouldn't apply, because the *ceteris paribus* clause comes into play after all.

But this worry seems to confuse two issues: assessing the rationality of changing my beliefs in a certain way (which I do at the initial time), and assessing the justification of the beliefs I end up with. At the time I choose to implement the belief change, I have no evidence that any of my beliefs is defective. Moreover, even if we waive this point, the objection would seem to apply in every case of belief change, making violation of the *ceteris paribus*-qualified principle impossible.

¹¹ This point was raised by an anonymous reader.

reliable manner. So let us consider an ordinary sort of belief--say a geographical belief for which I cannot remember my evidence, but where my background beliefs make it reasonable to suppose that I formed it in a reliable way. Now suppose I have an opportunity to use the downloader on a total stranger's belief about this proposition. And suppose that nothing about this person--not her appearance or demeanor, not the circumstances of our meeting, nothing--gives me reason to think that she is more, or less, reliable than I am on this sort of geographical matter. This last supposition involves more than might at first be apparent. For example, if I consider myself unusually geographically well-informed, then, if I knew nothing about the stranger, it would be epistemically foolish to use the downloader. On the other hand, if I take my geographical reliability to be lower than the norm, then, given that I have no reason to suppose that the stranger is similarly geographically impaired, it would seem epistemically rational to use the device. So let us suppose that I have no reason to consider myself any more or less reliable on this topic than the average person, and that the same holds for my assessment of the stranger. Should I use the downloader?¹²

My intuition in this case is the same as in the case where I have positive reason to believe the other agent equally reliable: that it is a matter of epistemic indifference. Of course, I'm taking a risk in using the downloader: my belief could be true and the stranger's belief could be false,

¹² One might object that, as I have described this case, I do have some sort of reason to take the stranger and myself as equally likely to be correct. I think that there may be something to this thought. However, to the extent that there is, I do not see how to tell any epistemically coherent story that avoids the problem. After all, beliefs are never completely isolated from background considerations that have some bearing on their reliability. There is no way, for example, for background beliefs to be simply "neutral" with respect to sort of reliability considerations they yield in the wife's baby case and the various geographical cases discussed above.

in which case I'll end up with a false belief instead of a true one. But in the imagined case, I have no reason to believe that this is any more likely at all than the opposite possibility: that my belief is false and the stranger's belief is true. Thus in declining to use the downloader, I would take an equivalent risk of ending up with the false belief rather than the true one. Given my information in this sort of case, the net epistemic expectation from using the downloader is neither for improvement nor diminishment. Thus, from the epistemic point of view, I have no reason to use, or refrain from using, the downloader.¹³

¹³ The explanation offered above of the intuition that it is a matter of epistemic indifference whether one uses the downloader is reminiscent of consequentialist-style thinking in ethics. This comparison might raise questions about whether considerations sometimes raised against consequentialism might have analogues in the present case. In particular, a reader who has at least weak intuitions against the rationality of using the downloader in the above case has raised the question of whether something like the doing/allowing distinction might support such intuitions. One might hold that it was epistemically worse to *do* something resulting in one's acquiring a false belief than to *allow* oneself to remain in error by failing to do something that would correct a false belief; this would tend to make the risk of using the downloader greater than the risk of refraining.

Apart from the question of whether an analogue of the doing/allowing doctrine applies in epistemology, it is worth noting that even if it did, it would be different from a demand for diachronic coherence. One can construct cases where doing/allowing considerations and coherence considerations would pull in opposite directions; for example, one might specify that the downloader will operate automatically unless the agent actively interferes (I owe this example to Derk Pereboom). If one's intuitions in such a case were that allowing the downloader to operate was epistemically rational, that would suggest that one's intuitions against using the downloader in the text's example should not be seen as supporting a demand for diachronic coherence.

I personally doubt that principles favoring allowing over doing would find an intuitively natural home in epistemology. As Arthur Kuflik pointed out to me, the plausibility of the doctrine that it is morally worse to bring about bad consequences than to allow them to occur seems to flow from a deeper intuition about non-interference in other people's lives. If that's right, then whatever importance the doing/allowing distinction may have in the interpersonal realm of ethics may well not carry over into intrapersonal normative principles of prudential reasoning or epistemology. Clearly, however, there is more to be said on this topic than I can say here. (For a discussion of the basis of the doing/allowing doctrine in ethics, see Warren S. Quinn, "Actions, (continued...)

A different kind of worry about thought experiments involving the downloader is that, in many cases, the device would disrupt synchronic coherence. This could happen in at least two different ways. First, we may suppose that a rational agent who believes P and disbelieves Q will still believe $(P \vee Q)$, simply because it follows so quickly from P. If the machine replaces the belief that P with a belief that not-P, and the agent retains belief in the disjunction, synchronic coherence is clearly destroyed. This, it might be urged, would constitute an epistemic reason not to use the downloader. I think that this sort of case is not too worrisome. For if the only reason the agent believes $(P \vee Q)$ is that she would infer it from her belief that P, then replacing the P belief would result in the loss of her belief in $(P \vee Q)$ as well.

But other cases will not be so easy to dismiss. The agent's belief that P may be heavily inferentially integrated with a huge network of other, independently grounded beliefs. In such cases, the downloader will create synchronic incoherence if it replaces the belief that P. If all of our beliefs were heavily inferentially integrated like this, non-disruptive use of the downloader might be impossible.

Still, it is very doubtful that all of our beliefs are inferentially integrated like this. Consider, for example, an agent's belief that there are 17 species of trout. Suppose that our agent does not believe this because she can list them, or because she believes that there are as many species of trout as of bass, or that the number of trout species matches her sister's birthday, or anything like that. She believes it by brute memorization. In such cases, it seems to me that the

¹³(...continued)

Intentions, and Consequences: The Doctrine of Doing and Allowing," *The Philosophical Review* 98 (1989): 287-312.)

machine would not disrupt synchronic coherence by replacing the agent's belief with the belief that there are 18 species. Given that such cases are possible, we may stipulate that the downloader operate only in them.

A related worry concerns second-order beliefs that are about former beliefs. If an agent, having used the downloader with an equally-informed friend, remembers recently believing the negation of one of her current beliefs, she would then have evidence against the current belief--a different kind of synchronic incoherence.

Here, I do not see any easy way of purifying the example to avoid the problem. If we arrange it so that the agent doesn't remember her former belief, she'll lose a bit of autobiographical knowledge. On the other hand, if she doesn't know her new belief is new, she'll probably end up with a new false autobiographical belief. Thus even our science-fiction cases may not provide a perfect way of intuitively testing the plausibility of demands for diachronic coherence.¹⁴

Nevertheless, I do not think that this problem vitiates the intuitive point the example is designed to make. The point of the example is to allow a thought experiment to isolate diachronic coherence from two other factors: (1) evidence of defect in the agent's initial belief (as in cases where one finds that one's friend's belief contradicts one's own) and (2) evidence for the superiority of the agent's initial belief over the alternatives (as when one believes one's belief to have been reliably formed, and has no reason to suppose the same for the alternative belief). Before we consider the problem of the second-order beliefs, when we are focussed on

¹⁴ This problem was pressed on me by Allan Gibbard.

ichthyological rather than autobiographical beliefs, we have the intuition that it is epistemically permissible for an agent to use the downloader when she has reason to believe that the other person's beliefs are as accurate as her own. This initial intuition still indicates that diachronic coherence is not an epistemic desideratum. The fact that further thought reveals a new, synchronic-coherence-related reason not to use the downloader does not, it seems to me, undermine the force of this intuition.

Might we save the desirability of diachronic coherence by some new *ceteris paribus* proviso? While such a suggestion is hard to dismiss definitively in the abstract, it does seem to me unlikely to prove fruitful. For recall that the root idea grounding the desirability of backward-looking coherence was to preserve the agent's learning. But now we can see that it's really not preserving *the agent's* learning in particular that is valuable; it's preserving *any* learning, any way of achieving accurate beliefs. Nothing directly connected to coherence with the agent's own earlier beliefs remains valuable, because what's valuable about informed beliefs has nothing to do with whose beliefs they are. *Qua* rational inquirer, the agent should put anyone's (equally reliable) learning on a par, because it is epistemically irrelevant whether it was he who did the learning he's trying to take advantage of. If this is right, then it turns out that diachronic coherence (even backward-looking) is not an epistemic desideratum (even *ceteris paribus*).

The ultimate problem with the idea of taking diachronic coherence as an epistemic desideratum, then, is that it accords importance to a factor that should be epistemically irrelevant: the identity of the agent having the initial beliefs. Diachronic coherence principles insert autobiographical considerations into an enterprise whose proper concern is limited to the detached pursuit of truth, or accuracy. This suggests that giving epistemic credit for diachronic coherence

violates a more general principle regarding epistemic desiderata. I would propose that the conception of epistemic rationality as being fundamentally concerned with pursuit of truth or accuracy motivates the following principle of diachronic epistemology:

Principle of Epistemic Impartiality: The considerations determining which beliefs it would be epistemically rational for an agent to adopt do not give special status to any of the agent's present opinions on the basis of their belonging to the agent.

Principles that would violate Impartiality are epistemically misguided for the same reason that a principle sanctioning wishful thinking, or Pascal's wager, would be epistemically misguided. They give credit for characteristics of beliefs that are irrelevant to the fundamental aim of accurate representation of the world. (Here we can see that pragmatic rationality, as applied to belief, does not obey the Impartiality principle.) It is a direct consequence of the Epistemic Impartiality principle that coherence--even backward-looking coherence--is not, after all, an epistemic desideratum. The fact that a certain belief would cohere with beliefs that happen to be *mine* garners no more credit--epistemically speaking--than its conformance with my desires, or its conduciveness to my long-term self-interest.

Now it might seem obviously wrong-headed to compare my forming beliefs on the basis of my present beliefs, and my forming beliefs on the basis of my wishes or practical interests. I certainly do not want to deny that, epistemically, one should typically take one's own present beliefs--but not one's wishes or interests--seriously in forming one's new beliefs. The fact that one believes P does typically provide evidence for P's truth, which is certainly an epistemic reason for favoring P in one's future beliefs. Thus there is an asymmetry between one's beliefs and one's desires or interests: we typically have good reason to think that our beliefs are reliable

indicators of truth; not so for our wishes, fears, interests, etc.¹⁵ Thus in normal cases, an agent's present beliefs should play a prominent role in determining her future beliefs. And this means that the beliefs of a rational agent will, by and large, show a great deal of diachronic coherence.

But this sort of diachronic coherence is an artifact of access, not proof of partiality. Before discovering what my friend believed about the relative sizes of mackerel and pickerel, I had only my belief to go on. My failure at that point to utilize his belief was not due to my taking my own belief as somehow more worthy of epistemic respect--I simply didn't know what he thought. Given my reasons for thinking my belief to be reliable, it was only reasonable for me to maintain it. This gave rise to an instance of diachronic coherence. But this sort of diachronic coherence is a byproduct of my epistemic predicament, not a constituent or desideratum of rational belief-change.

Thus it seems that this way of taking one's present beliefs into account in choosing future beliefs is, after all, an impartial one. Insofar as one has information about others' beliefs, one should take those beliefs into account in exactly the same way. Assessments of accuracy, and not of diachronic coherence, should settle disagreements. As the Impartiality principle insists, one's own beliefs are not to be favored simply because they are one's own.

5. Impartiality and Perspective

Suppose now that we grant that it would be irrational for me to favor my own beliefs over those of others when considering beliefs evidentially, as potential indicators of truth (that is, when

¹⁵ This asymmetry point was made to me by Hilary Kornblith.

taking the fact *that I, a reliable agent, now believe that P* as reason for my believing P in the future). Still, it might seem that there is another way in which I use present beliefs in forming future beliefs, a way that poses deeper difficulties for the Impartiality Principle. Any epistemically rational procedure for forming future beliefs presumably aims at accuracy. But in aiming at accuracy, I must do so on the basis of the beliefs I currently accept. Now suppose that I presently believe that P. Insofar as I want my future beliefs to be accurate, I do seem to have reason to maintain my belief that P in the future. Here, it's *that P*, not *that I, a reliable agent, believe that P*, which provides my reason. Even so, it looks like some backward-looking coherence will inevitably be an integral part of rational belief-formation.

To put the same point another way: My present beliefs are my representation of the world, typically the only representation I have to use in tailoring my new beliefs to fit the world as well as possible. When I choose new beliefs, I do so from what might be called an *epistemic perspective*, a perspective which is in large part defined by my present beliefs. Given this situation, won't the fact that *I* currently believe P underwrite the rationality of my maintaining the belief that P? And doesn't this constitute a violation of Impartiality?

Interestingly, an instance of exactly this type of worry is expressed by Foley in arguing *against* a diachronic coherence principle. Foley considers cases in which one is told by a belief-predicting machine that one will believe P in the future, and in which one has no reason to think that the beliefs predicted by the machine are especially reliable or unreliable (for example, one has no reason to think that the machine tends to predict true beliefs). In such cases, Foley argues that one should place some trust in one's future opinions. After all, they will be produced by

one's own current opinions and one's own epistemic faculties. And, on pain of synchronic incoherence, one must have some general trust in these.

But Foley holds that the evidence provided by these foreseen future beliefs is, in a distinctive way, peculiarly weak. If my foreseen belief conflicts with my present belief, Foley holds that the present belief has priority, and I have *no* reason to alter it. The reason for this is that what underlies the evidential implications of my future belief is, ultimately, my presumption of my own current reliability. Foley writes that "The conflict [with my present belief] removes the presumption that my future self is reliable with respect to P, and hence my future opinion gives me no reason to alter my present opinion."¹⁶ This granting of priority to one's present self over one's future self clearly violates at least the spirit of the Impartiality principle. The obvious extension of Foley's claim to interpersonal cases would violate the letter.

Now suppose we grant Foley's claim that a general trust in my future beliefs flows from a general trust in my own current reliability. This would seem to put my two selves on a par. And seeing things this way would not obviously support giving any priority to the current beliefs (much less giving the future belief no weight at all). The oddness of Foley's claim here is directly related to violation of Impartiality, and Foley realizes that his claim may be counterintuitive. He responds as follows to the suggestion that my current opinions should enjoy no privilege in adjudicating conflicts with my later selves:

But this is a misleading way to think about conflicts between current and future opinions. It overlooks the truism that at the current moment I have no choice but to have

¹⁶ "How Should Future Opinion Affect Current Opinion?" 759.

current opinions if I am to have opinions at all. Correspondingly, there is no choice but for my current self to arbitrate a conflict between current and future opinion if there is to be arbitration at all. (ibid., 760)

If Foley is right here, an analogous argument could well apply to the Impartiality principle. If rational belief-management inevitably favors the perspective of the managing agent in the way Foley suggests, then a certain kind of partiality seems to be automatically built into the process.

Now it is not immediately clear what it would be like to have no reasons bearing on the reliability of my future self's beliefs. After all, part of my confidence in my own cognitive abilities involves a belief in my own *general* tendency toward cognitive improvement--either by acquiring new information or just by thinking things through more carefully. Insofar as I can imagine knowing nothing special about my future belief that P, I suspect that my general trust in my own belief-acquisition processes would give me reason not only to take my future belief into account, but actually to *favor* my future belief over my present one.

But perhaps we can ignore this problem, and simply stipulate that we have no reason for thinking our future self to be more, or less, reliable than our present self. In such cases, two questions arise: First, does the fact that I have to manage my beliefs from within my own current perspective somehow force me to give my current beliefs precedence? And second, if I can treat the two beliefs on a par, should I?

Foley acknowledges that I may give my future belief that P precedence when I think that my future self will be *more* reliable. But when I do that, I certainly do it from my own perspective, which rejects P. If I can do that, what is to prevent me from being even-handed when it comes to dealing with my future self, in cases where I have no special information about

that self's reliability? The fact that I arbitrate from the present perspective does not force me to be partial to my present beliefs. And if my reason for confidence in my future self is parallel to my reason for confidence in my present self, it seems to me that I *should not* give my present belief priority.¹⁷

A similar point applies in interpersonal cases. The fact that I must arbitrate interpersonal belief conflicts from my present perspective does not show that I must be partial to my own beliefs, or that I should be. The fact that I currently believe that there are 17 species of trout should not count against my using the downloader on a person who, for all I know, may disagree with that belief. If I have no reason to think that I am more likely to be correct in cases of conflict on such matters, then the possibility of such conflicts should not count at all against using the downloader.

It seems, then, that we should reject the claim that my currently believing that P automatically renders me partial--or should render me partial--with respect to my believing P in the future. I can put aside this component of my perspective in determining whether to believe P in the future. And in certain cases, I should do just that.

Still, to let matters rest here might seem to be to treat the perspectival worry too lightly. For how, it might be asked, am I to *decide* whether to put aside my current belief that P in determining my future belief? Surely not by escaping from my perspective entirely. Whatever epistemic determinations I make, I must ultimately make from my own perspective. In particular,

¹⁷ Foley does say that if one has some special reason for thinking that one's future self will be just as reliable as one's present self, then one's future belief does provide some reason for modifying one's present belief. I do not know why he doesn't extend this verdict to cases in which one has no special reasons for trust or distrust in one's future self's beliefs.

even in determining which of my beliefs I should rely upon, I will generally use some other beliefs. But if that is so, am I not being partial *then*? Are not these *other* beliefs being given special status in determining what belief changes I should implement, and aren't they given this status just because they're mine?

Let us consider some such other belief--say, my belief that Q--which I use in determining whether to use the downloader in a way that may result in revising my belief that P. Do I have a reasonable alternative to using my belief that Q in making this decision? Typically, I do not. In the usual case, my own beliefs are what I have to go on in making epistemic decisions. In the unlikely event that I have an alternative to relying on my belief that Q--such as the ability to utilize another reliable person's belief about whether Q--then I will violate Impartiality if I give preference to my own belief about Q because it's mine. But if I make the decision by relying on the only resource available to me, this constitutes no violation of Impartiality.

Of course, any thinking I do about whether to rely on my belief that Q will require still further beliefs. But I take it that this creates no new problem. As long as there is no point at which I discriminate between utilizable beliefs on the basis of the fact that one belongs to me, I have not violated Impartiality. To use beliefs because they are the only ones I have to go on in a given situation is one thing; to choose among beliefs on the basis of their belonging to me is another.

This points out an intrinsic limit on the demands one might make on rules for belief change. It is clear that rationality cannot require that agents determine what to believe without using their present beliefs at all. We must allow the agent's learning, which, as we've seen, is in large part maintained in her beliefs, to be preserved and utilized in forming her future beliefs.

Clearly, a radical dissociation from one's own current beliefs is incompatible with rational belief revision. But we can also see that no such radical dissociation is entailed by Epistemic Impartiality. What the principle does demand is that, *insofar as different beliefs are available* for use in determining one's future beliefs, one's own beliefs are not favored in virtue of their being one's own. The learning I seek to preserve is valuable because it is learning, not because I had a role in its production.

6. Conclusion

Although Impartiality does not require bypassing one's present beliefs in determining one's future beliefs, it does put substantial restrictions on the way one's present beliefs can be used. After all, one can use one's present beliefs in a great many ways. One can use them in calculating which future beliefs will be most coherent with the beliefs one presently has. Or one can use them in calculating which future beliefs will be most accurate. The principle of Epistemic Impartiality allows the latter consideration, but not the former, to have weight.

Let me close with an illustration of the light Impartiality may throw on proposed principles for rational belief revision. The diachronic constraint proposed by Luc Bovens (see note 3 above) is designed to yield a non-probabilistic version of Reflection, in a way that avoids Reflection's demand for coherence with beliefs one expects to form irrationally. Bovens' principle would require, roughly, that one believe a proposition P when there is a set E of evidence propositions such that one reasonably believed that:

- (a) E made P rational to believe;
- (b) one's future (or past or present) self had sufficient reason to believe E; and

(c) any at-least-equally-reliable evidence E' bearing on P that one's future (or past or present) self had sufficient reason to believe would also rationalize belief in P.

The insistence that foreseen future beliefs only constrain present belief when they are rational avoids Reflection's implication that one must make one's current beliefs cohere with future beliefs one expects to form, for example, under the influence of psychedelic drugs. Yet the principle, as stated, is not an Impartial one.

The modified principle's emphasis on rational belief, however, raises exactly the sort of question we've been concentrating on. Isn't it really the well-groundedness of the beliefs one has at the future (or past) times that makes them worth conforming to now? If so, then isn't the fact that it is one's own self that will have those beliefs irrelevant? I would argue that these questions should be answered in the affirmative. The reasons for taking one's future beliefs seriously when they are rationally based are exactly the reasons for taking other people's beliefs seriously when they are rationally based.

Thus the motivations for moving from Reflection to Bovens' principle are equally reasons for moving from Bovens' principle to an Impartial generalization of it--one that would treat other people's beliefs on a par with one's own future beliefs. Thus generalized, of course, the principle would no longer be a diachronic constraint on an agent's beliefs. It would simply recognize that rational beliefs--no matter whose--are an epistemic resource.

The Impartiality principle I would defend thus rules out a number of principles for belief revision. Some of these, such as extreme dogmatism, are generally acknowledged to be irrational. But others--ones that involve taking milder forms of diachronic coherence as epistemic desiderata--have been claimed to be rationally required. If the above arguments are correct, then, the

impartiality towards one's beliefs required by rationality puts significant restrictions on principles for rational belief formation.

The appeal of Epistemic Impartiality lies in the objectivity of truth. Epistemic rationality aims most fundamentally at accurate representation of the world. This is an objective matter, bearing no intrinsic relation to the matter of which beliefs have belonged, or will in the future belong, to the agent.

Epistemic Impartiality is an ideal, but real agents may approach it. As we have seen, using your own beliefs to determine what to believe in the future need not commit you--logically or psychologically--to taking a partial attitude toward them. When you rationally determine your future beliefs, your initial belief in P need get no special consideration on the basis of its being yours.

This is not to say, of course, that perfect impartiality is to be expected from real agents. We can expect a certain amount of dogmatism, for example, to crop up even in open-minded inquirers, just as we can expect selfishness and other forms of partiality to crop up in morally decent people. But we may make progress toward both kinds of impartiality. And we may judge agents, both epistemically and morally, according to the extent to which their actions approximate these ideals.