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# Constancy, Coherence, and Causality

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According to David Hume, we believe in the existence of an external world because of the phenomena of constancy and coherence (T 1.4.2.18–43; SBN 194–210).<sup>1</sup> Hume delineated these two aspects of our sensory experience, and claimed that they influence the imagination in such a way as to generate belief in the existence of unperceived objects, independent of the mind. There is disagreement among philosophers as to the proper way to characterize constancy and coherence and the ways in which they respectively lead us to believe in external objects. The most straightforward account of coherence seems to make it the same as Hume's concept of causality. Yet Hume denies that they are the same; and commentators disagree as to how to understand Hume's distinction between the two. As to constancy, many philosophers, following H. H. Price,<sup>2</sup> have argued that it is really just a special case of coherence, and that its role in generating belief in external objects is the same as that of coherence. There is consequent puzzlement as to why Hume attributed a different, and more important, role to constancy.

In an important recent book, Louis E. Loeb has proposed a very interesting two-part solution to this last puzzle: First, Hume is convinced that the common-sense view of the external world is patently false; so he cannot allow that it results from something as reasonable as causal inference. But the way coherence leads to belief in external objects is a form of causal inference. So, Hume wants constancy to lead to belief in external objects in a different, less reasonable way; and he wants constancy to be more important than coherence in leading to belief in the external world. Second, Hume did not realize that constancy is simply a special case of coherence (or causality), because of certain assumptions about causality that he

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had inherited from his predecessors (i.e., he did not see the causality involved in the relation between an object's existing at one moment and its existing at a later moment). Therefore he appealed to non-rational mechanisms of the imagination to explain how constancy leads us to posit external objects.<sup>3</sup>

I will try to show that solutions such as Loeb's, which grant the affinity between coherence and causality and the reducibility of constancy to coherence, are unnecessary. I will propose a way to make sense of Hume's claim that coherence is not the same as causality; and I will argue that what Hume calls 'constancy' is not, and should not be, the same as, or reducible to, coherence. After introducing some basic terms, including 'constancy' and 'coherence' themselves (in section I), I will discuss the proper characterization of coherence and how it differs from causality (section II). Then I will discuss Hume's account of constancy and how it leads to belief in external objects; and I will contrast it with the alternative account, referred to above, that is widely held to be preferable (section III). I will argue that Hume's own account has certain advantages over the alternative (section IV) and that the main arguments against Hume's account are inconclusive (sections V and VI). The argument of section IV will yield an explanation of Hume's assigning more importance to constancy than to coherence. Finally, I will suggest (in the concluding section) that though Hume considered constancy and coherence to be merely the psychological "causes" that "induce us to believe in the existence of body," we can use them as a basis of an epistemological justification of our belief in the external world. I will make extensive use of H. H. Price's *Hume's Theory of the External World*; for much of the current understanding, as well as misunderstanding, of Hume's concepts of constancy and coherence is the result of the detailed analyses and arguments in that work.<sup>4</sup>

## I

First of all, we need to understand what Hume means by "belief in the existence of body," or of the external world; and to understand that, we need to be familiar with some of the basic concepts of Hume's philosophy. The most basic terms of Hume's philosophy are 'perception,' 'impression,' and 'idea.' Every perception is either an impression or an idea, and every impression or idea is a perception. A perception is whatever is in (or before, or present to) the mind. Ideas are in the mind in thinking; impressions are in the mind in sensation and emotion (T 1.1.1.1; SBN 1–2). We will be concerned primarily with what Hume calls 'impressions of sensation,' which are the kind of thing that is characteristically in the mind in cases of sense-perception—such things as colors and shapes in one's visual field, and tactual hardness and softness, roughness and smoothness, and heat and cold, as well as sounds, smells, and tastes (T 1.1.2.1; SBN 7–8). We will call these simply

'impressions'; we may also call them 'sensible qualities' and, following Price and others, 'sensibilia.'

According to Hume, our belief in the existence of "body" is the belief that certain impressions have distinct—that is, external and independent—and continued existence (T 1.4.2.2, 1.2.6.9; SBN 188, 68). In other words, our belief that an external world of material objects exists is the belief that certain sensible qualities continue to exist when not in the mind, or when not perceived (and some may exist though never perceived), and are independent of the circumstances of their being perceived. Though it may seem odd (to say the least) to say that the external, physical world is constituted of impressions, or perceptions, Hume was led to say this by his empiricist principle that every idea is a copy of an earlier impression, or a combination of copies of parts of earlier impressions (T 1.1.1). Hume's empiricism entails that we literally have no idea of anything that is "specifically different" from the impressions that have been in our minds. We cannot so much as think of something different in kind from perceptions. Therefore, our concept of the external world must be of perceptions that are outside and independent of the mind (T 1.2.6.7–9, 1.4.2.2; SBN 67–8, 188).

Nevertheless, we should not think of the belief in the external world that Hume is explaining as a form of phenomenalism, according to which a statement about an external object is reducible to statements about one's actual and hypothetical experiences. Rather what Hume is explaining is, first, the commonsense view that the very same kinds of things that are the objects of my sensory experience exist independently of anyone's experience, and second, the philosophical view that the objects of sensory experience are caused by similar objects that exist independently; that is, he wants to explain first naive, or direct, realism, and then representative, or causal, realism. Hume is not concerned—at least not directly concerned—with the justification of these views, or with determining whether they are true; rather he wants to explain how we come to adopt them (T 1.4.2.1–2; SBN 187–8). Hume held that we are led to attribute continuity and independence to sensible qualities, and thus to believe in an external world, because certain groups of impressions in our minds exhibit constancy and coherence.

Constancy is a property of a set of impressions that occur in the mind at various times; the property consists in those impressions' being qualitatively identical, or at least similar, to each other (T 1.4.2.18; SBN 194–5). Thus, for example, suppose I go to a favorite spot on the beach and have an impression of the sea; I close my eyes, then open them again and I have another, qualitatively identical impression; I retire to my beach house and return to the beach the next day and again have a more or less identical impression. I travel inland, and return to the beach only a year later, and I have yet another similar impression of the sea, etc. The set consisting of all those impressions of the sea exhibits constancy.

Coherence is a property of a set of series of impressions, the series occurring in the mind at various intervals of time; the property consists in the series' partially resembling each other. Thus, to use an example of Hume's, suppose I have often had the following type of series of impressions: (A) a visual impression of a door opening, (B) an auditory impression of a squeak, (C) a visual impression of a person's walking across the room, (D) the sound of footsteps, and (E) the sight of the person placing an envelope on my desk. Now, with my back to the door, I have only BDE (without A and C). The several instances of the series ABCDE and the current instance of BDE together exemplify coherence (T 1.4.2.20; SBN 196).

Following Hume's order of presentation, let us now examine how coherence leads us to attribute continued and distinct existence to impressions. In Hume's example, the kind of squeak I hear has always (let us assume, for now) been accompanied by a visual impression of a door turning upon its hinges. The sound of footsteps has always been accompanied by visual impressions of a person walking across the room. Based on my past experience, I expect to have the entire series of impressions ABCDE; I do not expect to have only BDE of that series. My present experience is, therefore, inconsistent with my expectations. But rather than recognizing this and altering, qualifying, or weakening my expectations from now on, I instead imagine that my present experience conforms to my original expectations, and that all of ABCDE are present, though I noticed only BDE. In order to explain this tendency to imagine a greater regularity than we actually experience, Hume invokes what Price aptly dubs "the inertia principle" (Price, 54-5).<sup>5</sup> In Hume's words, "as the mind is once in the train of observing an uniformity among objects, it naturally continues, till it renders the uniformity as compleat as possible" (T 1.4.2.22; SBN 198). Furthermore, I not only imagine that all of ABCDE are present, but I also believe that they are, because this is the only way I can render my experience consistent with my expectations. I thus come to believe that impressions of types A and C were present though not in my mind—i.e., that there was a (visible) door that turned on its hinges, and there was a (visible) person walking across the room, even though I did not see either of them. This is at least a step in the direction of belief in the existence of an external world (T 1.4.2.20; SBN 196-7).

Price, followed by most commentators since, generalizes and somewhat formalizes Hume's account of coherence as follows. Consider a group of series of impressions of the following forms, occurring at various intervals of time: (1) ABCDE, (2) A - CDE, (3) AB - - E, (4) A - - - E, etc. (Here 'A' is a variable ranging over types of impressions; not, as above, a term referring to one particular type of impression, i.e., a visual impression of a door turning on its hinges. The same goes for 'B,' 'C,' 'D,' and 'E.')

All the A's resemble each other, all the B's resemble each other, etc.; and though the length of the intervals between series may vary greatly, the temporal relations within each series are (approximately) the same as

in all the others, i.e., the amount of time between an A and an E in any series in which they both occur is constant, as is the amount of time between a B and a D in any series in which they occur, and similarly for A and C, B and E, etc. Price calls (1), ABCDE, the “standard series” of the group. The other series in the group bear a partial resemblance to the standard series; merely partial because, compared to the standard series, they have “gaps.” Thus series (2) has no impression of type B, though (as specified above) the time between the impression of type A and that of type C is the same as in the standard series; similarly, series (3) has no impressions of types B or C, though the time between A and D is the same as in the standard series, etc. In virtue of this partial resemblance between the standard and the “gappy” series in the group, this group exhibits coherence (Price, 35–6).

Based on the above analysis of the concept of coherence, Price offers the following account of how coherence leads us to posit impressions that are not in the mind, or what Price calls “unsensed sensibilia.” Let us assume that we have had a number of experiences of the standard series (1). Then every time we experience a non-standard series of the group, one with one or more gaps in it, we assimilate the gappy series to the standard series, by “a kind of argument by analogy”; that is, we assume that the gaps are actually filled by sensibilia of the type that would render the series standard, but we acknowledge that they were not sensed. Thus we impose a greater degree of regularity on the world of sensibilia than is given in our experience (Price, 50–3).

## II

Hume notes that our positing of impressions, or sensible qualities, that are not in the mind, based on coherence, is much like causal inference (T 1.4.2.21; SBN 197). Thus, in our example above, we have often experienced a particular kind of squeak accompanied by a particular kind of visual impression of a door turning on its hinges; now we experience only the squeak, and we come to believe in the existence of its usual concomitant, the (visible, though unseen) door turning on its hinges. This seems to be a case of causal inference, the visible door turning on its hinges being the inferred cause of the heard squeak; for causal inference, as well as the above example of what we may call “coherence inference,”<sup>6</sup> may be characterized as follows: In our experience, A and B have been constantly conjoined; so when we observe an A, we believe that a B is present as well.

But though he notes the similarity, he claims that there is a difference between causal and coherence inferences; for,

whenever we infer the continu’d existence of the objects of sense from their coherence . . . , ’tis in order to bestow on the objects a greater regularity than what is observ’d in our mere perception. We remark a

connexion betwixt two kinds of objects in their past appearance to the senses, but are not able to observe this connexion to be perfectly constant, since the turning about of our head, or the shutting of our eyes is able to break it. What then do we suppose in this case, but that these objects still continue their usual connexion, notwithstanding their apparent interruption. (T 1.4.2.21; SBN 197–8)

Thus the conjunctions (or “connexions”) upon which coherence inferences are based are not perfectly constant. We come to think of them as perfectly constant by positing unsensed sensibilia, or extra-mental impressions. Since Hume is here describing the aspect of coherence inferences that differentiates them from causal inferences, presumably he holds that the past conjunctions on which causal inferences are based are perfectly constant. This would be why Hume says that causal inferences are purely a matter of “habit,” whereas coherence inferences depend on the inertia principle.

However, it seems obvious that many, if not all, of the inferences that we would normally think of as causal—and that we would normally assume that Hume was thinking of as causal—are based on conjunctions that are not perfectly constant. For example, when we see someone release a stone from his hand, we causally infer that the stone will drop to the ground. But have we observed the stone’s falling to the ground on every occasion that we observed its being released from the hand that held it? Did we not often turn our head or shut our eyes and so not see it drop to the ground? (See Price, 7.) So it seems that Hume has not successfully distinguished coherence inferences from causal inferences. Some commentators have gone so far as to suggest that causality is really nothing but coherence, and that it dawned on Hume only in writing the section “Of Scepticism with regard to the Senses” (T 1.4.2) that causal inference is even less reasonable than he had indicated in his classic discussion of it (T 1.3.4–13).<sup>7</sup> We may hesitate to accept this interpretation, with its implied attribution of insincerity to Hume when he claims that coherence differs from causality; but we must admit that his distinction is puzzling.

I think the most promising approach to solving the puzzle is one suggested by some comments of Price in a different context (see 6–8), and which has since been adopted by several authors.<sup>8</sup> The approach is to say that coherence (or the conjunction upon which a coherence inference is based) is a relation among impressions in the mind, whereas the constant conjunctions upon which causal inferences are based are between types of material objects, or events in the external world. It is precisely because coherence is a relation among “fleeting” impressions that the conjunctions involved are less than constant; and it is, at least partly, because causal inferences are made in the context of our already having developed a belief in enduring material objects that the conjunctions involved can be perfectly constant.<sup>9</sup>

I think it is important, however, that we add that causal inferences are made only after we have developed the commonsense view of our partial and piecemeal perception of the external world. Only then do the closing of our eyes and the turning of our heads become irrelevant to the constancy of conjunctions between types of external events.<sup>10</sup> Thus we can make sense of Hume's way of distinguishing between coherence and causality by reference to the contexts in which these two phenomena occur. The constant conjunctions that constitute causal relations are believed to exist only against the background of a mature theory, or picture, of the external world and the conditions under which we perceive parts of it—a picture that we are, in part, led to form by the coherence exhibited by impressions in our minds. Before we have such a picture, and in the process of forming one, we posit extra-mental perceptions on the basis of the less-than-constant conjunctions among impressions in our minds that constitute coherence. These acts of positing unsensed sensibilia are the result of the principle of inertia, the imagination's tendency to go beyond a regularity given in experience and to posit a greater degree of regularity. Many of our coherence inferences would seem foolish from a more mature perspective. But through trial and error, we build up a consistent picture of the external world. Once we have such a picture, our acts of positing unperceived causes or effects on the basis of constant conjunctions that we believe exist in the external world are the result of habit, or the imagination's tendency to preserve a given degree of regularity.<sup>11</sup>

### III

Hume's account of how constancy leads us to believe that impressions continue to exist when not before the mind is more complicated than his account of the effects of coherence. According to Hume, we come to identify the several resembling impressions constituting a set that exhibits constancy—that is, to think of them as one impression—and to believe that that one impression continued to exist during all the intervening periods of time when it was not before the mind. But what is it to identify impressions? What is identity? To paraphrase Hume, our idea of identity is that of a single impression, A, contemporaneous with a succession, or temporal series, of perceptions LMNOP.<sup>12</sup> We can think simultaneously of A as contemporaneous with L and as contemporaneous with O (for example); we thus would be thinking of A twice, as if there were two A's. But we can also think of A as a unit, which it really is. We can then think of A-contemporaneous-with-L and A-contemporaneous-with-O as two things that are really one. This is identity. Hume thinks that our idea of identity involves confusion, first of all because it is based on vacillating between viewing A as two things and viewing it as one, and more fundamentally because it mistakenly applies passage of time, or duration, to the unchanging A. (But see below, in section VI.) However, it is an idea, or idea



plus confusion, which we all have. Thus our paradigm of identity—or our abstract idea of identity—is a single, unchanging perception which is contemporaneous with a succession of perceptions, and so is imagined to persist through a period of time (T 1.4.2.29, 1.2.5.28–9; SBN 200–1, 64–5).

When we remember the mutually resembling but temporally separated impressions that constitute a set *S* exhibiting constancy, the resemblance among those impressions makes us think of them in the same way that we think of identity, or of a single impression (mistakenly imagined as) persisting over a period of time. We therefore confuse constancy with identity and come to imagine that the impressions constituting *S* are numerically identical with each other (T 1.4.2.31–5; SBN 201–4). However, the periods of time between the impressions in *S*, during which none of those impressions existed in the mind, make it impossible that those impressions be one; for in being intermittent, or interrupted, these impressions differ from the unchanging, uninterrupted impression contemporaneous with a succession of perceptions that is our paradigm of identity. But the mind is so intent on maintaining the identity, that we imagine that (what we think of as) the one impression constituting *S* continued to exist during the intervals when it was not in the mind (T 1.4.2.37; SBN 205–6). The idea of this continuity of existence becomes belief. This is because we are remembering the impressions of *S*, and memory has a natural vivacity; this vivacity is transmitted to the associated idea of continuous existence. Since belief is nothing but a lively idea, we thus believe that *S* consists of one long-lasting impression that existed even during those intervals when it was not in the mind (T 1.4.2.41–2; SBN 208–9).<sup>13</sup> Thus in our earlier example, when I open my eyes or return to the beach after a day or after a year, I believe that I am seeing the same sea on each occasion, and that the sea continued to exist between the occasions on which I saw it.

Price thinks that what Hume thinks of as a single impression contemporaneous with a succession of perceptions is really itself a succession of mutually resembling impressions; for impressions are merely momentary existents. Thus what is contemporaneous with LMNOP is more perspicuously represented not simply as ‘A,’ but as ‘AAAAA,’ or as ‘A<sub>1</sub>A<sub>2</sub>A<sub>3</sub>A<sub>4</sub>A<sub>5</sub>.’ It is A<sub>1</sub> that is contemporaneous with L, and A<sub>4</sub> that is contemporaneous with O; and what makes all five of the A’s one unit is simply their constituting a single continuous series of mutually resembling impressions—a “monotonous series” (Price, 45–6).

Price proceeds to offer a rational reconstruction of Hume’s concept of constancy, in light of the above analysis of identity.<sup>14</sup> Consider a group of series of impressions of the following forms, occurring at various intervals of time: (1) AAAAA, (2) A - AAA, (3) A - - AA, (4) A - - - A, etc. Every A resembles every other (not only in its own series, but also in all the other series in the group); and though the length of the intervals between series may vary greatly, the duration of each series is similar to that of every other. (1) is a monotonous series, and is the standard

series of the group. The other series in the group resemble the standard series, except for the gaps that they contain. In virtue of this partial resemblance between the gappy and the standard series, this group exhibits constancy (Price, 60–2). In cases of constancy, as in cases of coherence, we tend to assimilate the gappy series to the standard series, by a kind of argument by analogy. We posit unsensed A's filling in the gaps, thus making every series a monotonous one, and therefore an instance of identity (Price, 72).

Price has thus reduced constancy to a special case of coherence, and assimilated the effects of constancy on the imagination to those of coherence. In fact, on Price's view, the monotony of the series and the concept of identity involved in cases of constancy are totally irrelevant to explaining how we come to posit the unsensed sensibilia that constitute the external world. According to Price, constancy and coherence are basically the same phenomenon; he calls it "gap-indifference," meaning that the temporal, or spatio-temporal, relation between, e.g., A and E is indifferent to the presence or absence of BCD between them, and the spatio-temporal relation between the two A's in A - - - A is indifferent to the presence or absence of another three A's between them. Gap-indifference leads us to assimilate gappy series of impressions to a standard series (whether monotonous or variegated), in accordance with the inertia principle. In this way, though his account is largely based on Hume's, Price has provided a much simpler account than Hume's own of how we come to believe in the existence of the external world. Furthermore, Price's account attributes far fewer confusions and mistakes to common sense than does Hume's own.<sup>15</sup>

#### IV

However, I think that Price's account of constancy and its effects is too simple; for it leaves out something important. To put it in Price's own terms, what is left out is a description and explanation of how, when confronted with a group of impressions that exhibits constancy, we come not only to identify the sensibilia within each series with each other, but also to identify the series themselves, and therefore all the impressions in the entire group, with each other. That is, we not only posit two unsensed A's in (3) and think of all of (3) as a single thing; we also posit as many unsensed A's as it takes to fill the intervals between the series—i.e., between (1) and (2), between (2) and (3), etc.—and we think of the resultant continuous, monotonous series of sensed and unsensed sensibilia that includes the entire group as one thing. That we make such posits and identifications is, in a sense, obvious. Consider our earlier example of having several resembling impressions of the sea at various intervals. We certainly think we are seeing the very same sea on each occasion, and we think that the sea continued to exist between our acts of seeing it. But Price has accounted for identification and the positing of unsensed

sensibilia only within a series of the same duration as the standard series, not for cross-series identification and the positing of inter-series sensibilia.

Hume, on the other hand, could account for this phenomenon. He placed no limits on the length of the intervals between resembling impressions which we identify with each other. There is nothing in what Hume says that rules out the possibility that when we survey in memory many resembling impressions, no matter how far apart in time, and no matter how long each impression lasted, we imagine and come to believe that what we perceived was a single, enduring impression that entered the mind on various occasions, but existed continuously even when not in the mind. Hume is able to account for identification across very long intervals and for the positing of unsensed sensibilia during the intervals partly because he construed constancy as different from coherence, and as leading to psychological processes different from those to which coherence leads.

But on Price's account, both constancy and coherence are just gap-indifference, and their effects are just the assimilation of gappy series to the corresponding standard series. The standard series is always of a given, limited duration, as are all the series in the group; and the inertia principle accounts only for positing unsensed sensibilia within a gappy series and, in cases of constancy, identification across gaps within a series. How could we experience or construct a monotonous series that lasts a year or more, to which we could assimilate some equally long gappy series, so that we could identify the sea I see today with the sea I saw last year? Perhaps many reiterations of the process of filling the gaps within series will yield a linking of series to form longer monotonous series, until eventually we have a standard series that lasts a year or more. But even if this strategy could be made to work, its complexity seems to outweigh the systematic simplicity achieved by reducing constancy to coherence. It seems simpler overall to say, as Hume does, that constancy and coherence are distinct phenomena with different effects, respectively, on the imagination; and that in cases of constancy, remembering all of our past mutually resembling impressions puts us in the same frame of mind as remembering an instance of identity. So when we survey in memory our past impressions of the sea, we identify all of them, in accordance with the principle that we tend to confuse two ideas, contemplation of which puts us in similar frames of mind; and we maintain this identification by positing an enduring sea.

Given that constancy leads to what we have called 'cross-series identification' and the positing of 'inter-series sensibilia,' we can suggest a possible reason why Hume said of coherence, "I am afraid 'tis too weak to support alone so vast an edifice as is that of the continu'd existence of all external bodies; and that we must join the *constancy* of their appearance to the *coherence*, in order to give a satisfactory account of that opinion" (T 1.4.2.23; SBN 198–9). Let us return to Hume's example of coherence that we presented earlier. We hear a squeak, but do not see a door turning on its hinges. Coherence leads us to posit (a visible impression of) a door

turning on its hinges. But coherence alone is not sufficient to lead us to believe that the visible impression of the door that we posit is numerically the same as what was in our minds on various other occasions, and has continued to exist in the meantime. Hume does say, in his discussion of the example, such things as that the hearing of the squeak without the seeing of the door is “contrary” to previous experience, “unless I suppose that *the door still remains*, and that *it was opened without my perceiving it*” (T 1.4.2.20; SBN 196–7, emphasis added). But I think it is clear that Hume was speaking loosely; for given the way coherence works, it can lead us to posit only *a* door turning on its hinges. It is constancy that leads us to identify this posited door with other impressions that have been in our minds, and ultimately to believe that the very same door has continued to exist, sometimes perceived, sometimes not, for a relatively long time.<sup>16</sup> In other words, as we said above in connection with Price’s account of constancy, coherence leads us to posit unsensed sensibilia within a gappy series—e.g., a B in (2)A - CDE and a C and a D in (3)AB - - E, so that (2) and (3) will resemble the standard series (1)ABCDE—but it does not lead us to posit unsensed sensibilia between series, e.g., between (1) and (2) or between (2) and (3). Thus constancy leads us to posit extra-mental impressions (or sensibilia, or sensible qualities) on a much larger scale than coherence—i.e., constancy leads us directly to fill much more time with extra-mental impressions than does coherence. Furthermore, constancy, unlike coherence, leads directly to our identifying temporally distant impressions in the mind with each other and with the extra-mental impressions that we posit; i.e., it gives us the belief that the numerically same impression exists outside the mind and periodically enters, or comes before, the mind. The belief that often the very same impression that is or was in my mind—for example, a particular colored shape in my visual field—continues to exist when not in the mind is the hallmark of what Hume calls the “vulgar,” or pre-philosophical, or commonsense, view of body; and it is this commonsense view that we are led to, according to Hume, by constancy and coherence.

## V

Price, however, offers the following argument against Hume’s account of constancy and its effects: On Hume’s account, he claims, any two exactly resembling impressions should lead us to identify them with each other and assume that they are two appearances before the mind of the same object that existed continuously between appearances. Thus,

suppose that at 1:30 p.m. I see Jones eating cold beef, and at 7:30 p.m. I see him eating cold beef, not having observed him at all in the interval.  
Ought I not to conclude that he has been eating cold beef continuously

all through the intervening six hours? Or again, at 8 a.m. as I go out of town I hear the sound of a siren, and at 6 p.m. as I return I hear a very similar sound. Why do I not conclude that the siren has been blowing all through the day? If close similarity between two individual impressions is all that is required, surely I *must* draw these conclusions? But it is certain that I do not. (Price, 67)

There are several different replies available to a defender of Hume. One is that the identifications we make based on constancy are based on more than two similar impressions. It does seem plausible to say at least that the more impressions we have that resemble each other, the stronger will be the tendency to identify them.

Another possible reply, which we may combine with the first, was, in effect, given by Hume himself in a different context (T 1.3.2.2; SBN 74). It is that there is indeed some (weak) tendency to identify two exactly resembling impressions, all else being equal; but in many cases this tendency is overcome by counter-evidence. In our cases, the counter-evidence consists in the facts that whenever we have observed people between lunch and supper, we have always observed them to engage in activities other than continuous eating, and that whenever we have remained in town all day, we have heard the siren cease in the morning and remain unheard for the rest of the day until the evening. Price also appealed to such counter-evidence. But whereas Price interpreted those experiences as representing the absence of a necessary condition (i.e., a monotonous standard series) for so much as tending to posit continuity and identity, Hume would interpret them as representing a psychological force acting against, and overcoming, a real tendency to posit continuity and identity.

A third possible reply, related to the second (and related also to the way we distinguished, above, between coherence and causality), is that there is a great difference between the way constancy affects us before we have developed a systematic view of the external world and the way it affects us afterward. Once we have a system of beliefs about the external world and how things generally work in it, the psychological mechanisms formerly actuated by constancy are now conditioned by that system of beliefs. Thus, given our general commonsense beliefs (or what Hume might call ‘general rules’) about people’s eating habits and about the sounding of sirens, the hypotheses of continuous eating and a continuous sounding of the siren in these particular cases has an initial implausibility, which effectively blocks our tendency to entertain them.

## VI

Hume is painfully aware that his account of the “causes that induce us to believe in the existence of body” lend no epistemic support to that belief; that on the

contrary, it seems to cast doubt on the truth of the belief (T 1.4.2.56; SBN 217–8). According to Hume, the constancy and coherence exhibited by the impressions in our minds set our imaginations off on a series of mistakes and confusions, followed by attempts to cover them up by means of *ad hoc* hypotheses; we believe in the external world only because we confuse coherence with causality, and constancy with identity. Hume's account of constancy and its effects, in particular, is a "nightmare story" (Price, 45) of confusion and cover-up. The very concept of identity involves the confusion of misapplying the passage of time involved in a succession of different perceptions to a single, unchanging perception. Then we confuse series of interrupted resembling impressions with instances of identity; and when we realize our mistake, instead of correcting it, we compound it by denying the obvious interruptions, and supporting this denial by concocting the hypothesis of impressions' existing unperceived, or outside the mind.

Price's analysis of identity and his reduction of constancy to coherence together avoid the confusions involved in Hume's account. As for coherence itself, he says that it leads to "a kind of argument from analogy" (Price, 50). So it might be claimed that on Price's account, both constancy and coherence lead us to infer the existence of the external world via a series of analogical arguments. His psychological account of how we come to believe in the existence of the external world would then be much more epistemologically respectable than Hume's.

I think that this result, in itself, does not prove that Price's account is more likely correct than Hume's. Nevertheless, it does make it more attractive than Hume's; for we would like to think that we come to our belief in the external world in a way that tends to justify, rather than undermine, that belief.

However, I think that Hume's account does not really attribute to us as many confusions and mistakes as Hume seems to think it does. First of all, with respect to the alleged mistake of applying passage of time to an unchanging object, I think that there is no mistake; rather it is wrong, or at least misleading, of Hume to refuse to attribute temporal duration to an object that remains unchanged while other objects change. It may make sense to deny that time passes when *nothing* changes.<sup>17</sup> But it does not make sense to deny that an object that remains unchanged while other objects do change endures through the period of time involved in the changes. Hume did so only because he held that our idea of time is an idea of change, or of a succession of different perceptions, and that, therefore, an idea of an unchanging object *by itself* is not an idea of passage of time. But there is no reason not to say that the more complex idea of an unchanging object plus a succession of perceptions which is contemporaneous with it is a perfectly respectable idea of identity, or of an object that endures through a real interval of time.<sup>18</sup>

As for the confusion of constancy, or periodic resembling impressions, with a single, enduring, unchanging impression, I think we can minimize the epistemological opprobrium involved. We can plead guilty to Hume's accusations of

confusing constancy with identity, and of supporting this confusion by the *ad hoc* hypothesis of continued unperceived, or extra-mental, existence. But we can plead guilty with an explanation. Ascribing numerical identity to the periodic resembling impressions could be viewed as an attempt to *explain* their resemblance. Though the hypothesis that a case of constancy is a case of a single sensible quality enduring for some time, during which it periodically comes before the mind, may occur to us as a result of confusion and *ad hoc* postulation, nevertheless, the subsequent corroboration of this hypothesis—i.e., its continued explanatory and predictive value—serves to justify our accepting it.<sup>19</sup> Perhaps Hume did not recognize this way of justifying a hypothesis irrespective of its origin. But many important hypotheses have been the results of dreams, flights of fantasy, and even downright confusions. If we recognize that a hypothesis discovered through a non-rational, or even irrational, process may nevertheless become justified by virtue of its explanatory and predictive power, then we need feel no epistemological qualms about accepting Hume's account of how constancy leads to belief in the existence of the external world. Our commonsense theory of the external world—to which we are led by the influence on our imagination of the constancy and coherence exhibited by our experience—is justified because it provides a framework for explaining the constancy and coherence, as well as other aspects, of our experience.

## VII

Let us summarize our results. We have suggested (in section II) a possible way to understand (or perhaps rationally reconstruct) Hume's distinction between coherence and causality. Coherence consists in the less-than-constant conjunctions that are a feature of our sensory experience; causality consists in the constant conjunctions that we believe exist in the external world that we only partially and intermittently perceive. Given this suggestion, we might say that according to Hume, the imagination's inertia leads us to assimilate coherence to causality. We might say further that much of the coherence exhibited by our sensory experience can be explained by causal laws that we can frame once we have developed a mature commonsense picture of the external world.

As for constancy, we have seen that Hume's account of it and its effects on the imagination can be defended against the psychological argument that we do not necessarily identify resembling impressions (section V), and against the epistemological argument that Hume's account undermines our belief in the external world (section VI). We have also seen that Hume's explanation has a great advantage over Price's widely preferred alternative explanation, which embodies amendments suggested by the above arguments, and which reduces constancy to coherence. The advantage is that on Hume's account, the development of our picture of the external world is given a tremendous boost by constancy and its effect on the

imagination, as compared to what it would be if that picture were the result solely of various forms of coherence. Admittedly, there is greater systematic simplicity in reducing constancy to coherence, as Price did; nevertheless, construing constancy and its effects as different from coherence and its effects, as Hume proposed, yields a greatly simplified process of developing our commonsense picture of the external world (section IV).<sup>20</sup> Along the way, we have, I hope, gained some insight into the exegetical questions of why Hume assigned a more complex and more important role to constancy than to coherence (section IV), and why Hume denied that an object could remain unchanged through a period of time (section VI).

I conclude with some brief remarks about the bearing of our discussion of constancy and coherence on the epistemological problem of our knowledge of the external world. In light of our discussions of explanation in Section VI, I think we are in a position to appreciate how the commonsense theory of the external world explains certain features of our sensory experience. To put it succinctly, causality explains coherence and identity explains constancy. More precisely, the commonsense view of the external world, which allows us to frame universal causal laws, provides a framework for explaining the constancy and coherence in our sensory experience. Hume may have described the psychological mechanisms whereby the constancy and coherence exhibited by our impressions of sensation generate our belief in the external world; but once we have a developed commonsense theory of perception and the external world, this theory is epistemically justified in virtue of its ability to explain that constancy and coherence, as well as other aspects of our experience. We thus have a hypothetico-deductive justification of our commonsense beliefs. It is similar to the justifications of various forms of representative realism suggested, for example, by Bertrand Russell early in the twentieth century, and by Grover Maxwell and Frank Jackson later in that century.<sup>21</sup> Of course, much more needs to be said about this kind of justification (e.g., is the external world theory falsifiable, or can it be adjusted to fit any possible experience?), and about precisely what kind of theory is being justified (e.g., is it only an abstract structure of relations that is really justified, whereas our commonsense view of the external world is merely a way of picturing that structure?). But the phenomena of constancy and coherence, to which Hume drew our attention, remain among the central data corroborating our beliefs about the external world.

## NOTES

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1 The ‘T’ refers to: David Hume, *A Treatise of Human Nature*, ed. David Fate Norton and Mary J. Norton (Oxford: Oxford University Press, 2000). The first numeral refers to the number of the book of the *Treatise*; the second numeral refers to the number of the part of that book; the third numeral refers to the number of the section of that part; and the fourth numeral refers to the number of the paragraph in that section. “SBN” refers to David Hume, *A Treatise of Human Nature*, ed. L. A. Selby-Bigge, 2nd ed., revised by P. H. Nidditch (Oxford: Clarendon Press, 1978); the numerals that follow refer to the page numbers in that edition of the *Treatise*.

2 In H. H. Price, *Hume’s Theory of the External World* (Oxford: Clarendon Press, 1940).

3 Louis E. Loeb, *Stability and Justification in Hume’s Treatise* (Oxford: Oxford University Press, 2002), chapters V and VI, especially sections 4 and 5 of chapter VI. On the issue of the role of causality in persistence through time, see below, note 14 and the related text.

4 Among the works that have incorporated some aspects of Price’s accounts of constancy and coherence are: D. G. C. MacNabb, *David Hume: His Theory of Knowledge and Morality*, 2nd ed. (Oxford: Blackwell, 1966), 129; Jonathan Bennett, *Locke, Berkeley, Hume: Central Themes* (Oxford: Clarendon Press, 1971), 323; Barry Stroud, *Hume* (London: Routledge and Kegan Paul, 1977), 101; Robert Fogelin, *Hume’s Skepticism in the Treatise of Human Nature* (London: Routledge, 1985), 72–4; Harold W. Noonan, *Routledge Philosophy Guidebook to Hume on Knowledge* (London: Routledge, 1999), 180–1; and especially Loeb, *op. cit.*, chapters V and VI.

5 Such references are to Price, *op. cit.* The numerals refer to page numbers.

6 Hume himself refers to the positing based on coherence as ‘inference’ (T 1.4.2.21; SBN 197).

7 See Paul Gomberg, “Coherence and Causal Inference in Hume’s Treatise,” in *Canadian Journal of Philosophy* 4 (1976): 693–704, 699.

8 E.g., M. J. Costa, “Hume and Belief in the Existence of the External World,” in *David Hume: Critical Assessments*, ed. S. Tweyman, 6 vols. (London: Routledge, 1994), 3: 559. P. Russell, in “Hume’s ‘Two Definitions’ of Cause and the Ontology of ‘Double Existence,’” *Hume Studies* 10(1) (1984): 1–25, reprinted in Tweyman, 3: 416–33, argues for the unusual thesis that Hume’s first definition of ‘cause’ applies to causes that are events involving material objects, whereas his second applies to causes that are events involving perceptions in the mind (see T 1.3.14.31; SBN 170).

9 Of course, there are causal relations among impressions of reflection in our minds as well. The present claim is only that with regard to impressions of sensation in our minds, we generally experience only coherence, whereas with regard to the corresponding external objects and events, we sometimes experience (what we interpret as) the constant conjunctions that constitute causality.

10 See David Pears, *Hume’s System* (Oxford: Oxford University Press, 1990), 170ff. Pears recognizes the importance, for positing or inferring unobserved objects, of beliefs about the conditions under which we would not perceive what occurs or what exists.

But Pears criticizes Hume for allegedly presupposing that people hold such beliefs when they posit entities and events on the basis of coherence. Pears seems to think that coherence posits would be unjustified, and often mistaken, if we did not already have such beliefs. And he is right. But that is precisely our (and Hume's) point: Our coherence-based posits are unjustified (relative to causal inferences); that's why they must involve the inertia principle. And they are often mistaken; it is by reconciling contradictions among our hasty coherence inferences that we eventually develop a consistent picture of the external world.

11 It remains to distinguish coherence inferences from probable inferences, which also are based on conjunctions that are less than constant (see T 1.3.11 and 12). Loeb (184) and Noonan (175–6) have suggested that in coherence inferences, though A and B have been conjoined only on most occasions, we infer an A from a B with certainty, as if A and B had been conjoined on all occasions. I suggest further that it is in keeping with what Hume says to say that in coherence inferences, even if A has been conjoined with B in fewer than half the occasions (so that it is improbable that the next B will be accompanied by an A), nevertheless as long as B has not been regularly conjoined with anything else, we infer an A from the next B.

12 This is how I interpret Hume's description of an "unchangeable object . . . suppos'd to participate of the changes of the co-existent objects" and "a single object . . . survey'd for any time without our discovering in it any interruption or variation" (T 1.4.2.29; SBN 201). See, e.g., Price, 39–40, and Noonan, 178–9, for essentially the same interpretation. Recently Donald M. Baxter, in "Hume on Steadfast Objects and Time," *Hume Studies* 27 (2001): 129–48, argued extensively for this interpretation.

13 "Here then we have a propensity to feign the continu'd existence of all sensible objects; and as this propensity arises from some lively impressions of the memory, it bestows a vivacity on that fiction; or in other words, makes us believe the continu'd existence of body." (T 1.4.2.42; SBN 209)

14 Price's account of constancy and its effects is logically independent of his analysis of identity. But the two fit together in that the analysis of identity naturally suggests a way of construing constancy as a form of coherence—by substituting "AAAAA" for "ABCDE."

15 I am grateful to an anonymous reviewer for *Hume Studies* for pointing out the importance for Price and others of reducing the number and magnitude of the mistakes and confusions that Hume attributes to us. I will deal more fully with this issue in section VI.

16 But see Gomberg, 703–4.

17 But see Sydney Shoemaker, "Time without Change," *Journal of Philosophy* 66 (1969): 363–81.

18 Compare Hume's refusal to call a dark expanse between two colored points "empty space" (T 1.2.5.5–19; SBN 55–60). There too the reason for this refusal is that he held that our idea of space is the idea of an array of colored or tangible points, so a visual field devoid of colored points *by itself* is not an idea of space at all. However, he admits that one can call the dark expanse between two colored points "empty space" as long as one acknowledges that our idea of space, or extension, derives from an impression of an array of colored or tangible points (T 1.2.5.27; SBN 64). Similarly, he should admit that

one can properly say that an impression that remains unchanged, while a succession of other perceptions pass through our minds, endures for a period of time, as long as one admits that our idea of time is derived from the experience of having a succession of different perceptions.

19 See, e.g., Carl G. Hempel, *Philosophy of Natural Science* (Englewood Cliffs, N.J.: Prentice-Hall, 1966), chapter 1, especially pages 15–6.

20 I believe that Hume's account has additional advantages over Price's, based specifically on the issue of the nature of identity and its role in explaining constancy. But I do not think that Hume was consciously aware of these advantages.

21 See Bertrand Russell, *The Problems of Philosophy* (London: Home University Library, 1912), chapters 2 and 3; Grover Maxwell, "Scientific Methodology and the Causal Theory of Perception," in *Problems in the Philosophy of Science*, ed. I. Lakatos and A. Musgrave (Amsterdam: North Holland Press, 1968); and Frank Jackson, *Perception: A Representative Theory* (Cambridge: Cambridge University Press, 1977).