Associationism without associative links: Thomas Brown and the associationist project

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ABSTRACT

There are two roles that association played in 18th—19th century associationism. The first dominates modern understanding of the history of the concept: association is a causal link posited to explain why ideas come in the sequence they do. The second has been ignored: association is merely regularity in the trains of thought, and the target of explanation. The view of association as regularity arose in several forms throughout the tradition, but Thomas Brown (1778—1820) makes the distinction explicit. He argues that there is no associative link, and association is mere sequence. I trace this view of association through the tradition, and consider its implications: Brown’s views, in particular, motivate a rethinking of the associationist tradition in psychology. Associationism was a project united by a shared explanandum phenomenon, rather than a theory united by a shared theoretical posit.

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1. Introduction

Associationism was the dominant philosophy of mind and psychology in the English speaking world from the mid-18th century until the rise of behaviorism in the early 20th century, and the concept of association has remained central in psychology to this day. I argue that the common understanding of the associationist tradition, and the role of the concept of association in it, is flawed.

The associationists often introduce the concept of association by noting that ideas do not spring to mind haphazardly; there is some regularity to the sequences of thought. They then describe the relations between ideas that predict those regularities, the laws of association. Different associationists proposed different sets of laws, but prominent examples include contiguity in experience, similarity, contrast, and cause and effect. Thomas Brown, in his 1820 Lectures on the Philosophy of the Human Mind, recognizes two conceptions of association which play different roles in this approach.

On one conception, an association is a causal intermediary between the factors indicated by the laws and the regularities in the sequences of thought: the laws describe the strengthening or weakening of associative links, which in turn direct sequences of thought, producing the observed regularities. On the other conception, association is just the regularity in sequence. If one takes this regularity view, one is only committed to the claim that the factor named in the law causes the regularities; one is not committed to any particular causal mediator. Brown argues for a regularity view. He adopts this view largely as a consequence of his general rejection of causal powers: association (like causation generally) is merely regularity in sequences of thought and there is no associative link or power involved. But one could take a regularity view of association without rejecting all intervening processes: the laws of association could be mediated by, for instance, the operation of a heretofore undescribed ‘principle of human nature’ (as Hume suggests at points), a faculty (as Thomas Reid argues), ‘interest’ (as G.F. Stout argues), or an unknown neural processes (as Edward Robinson argues).

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1 1778—1820. Brown was Professor of Moral Philosophy at Edinburgh from 1810 until his death at the age of 42. His major published works include Lectures on the Philosophy of the Human Mind (originally published in 1820, cited here from 1840), Inquiry into the Relation of Cause and Effect (published 1818, cited here from 1835), both of which will be discussed here, and Observations on the Zoönomia of Erasmus Darwin (1798).
Modern discussion emphasizes the associative link, neglecting the regularity view. Brown’s associationism, in particular, has received little attention in recent decades. If the associative link were the only conception of association among the associationists, Brown would not fit as a member the tradition: he denied their central posit. But he saw himself as part of the tradition, and he was accepted and influential within it. Though Brown was the first to voice it clearly, the regularity view was around in some form through the entire tradition. Often, but not always, it manifested as an ambiguity within individual authors’ work. At different times, the difference between the two views manifested in different ways, but the core ideas are the same. The associative link view treats association as a causal power or mechanism that is built up based on the laws of association. An associative link causes an idea in the mind to be followed by the idea connected to it, so on this view, associations explain why thoughts go in the order they do. The associative link is a theoretical posit, it is the explanans. The regularity view treats association as a mere phenomenon of sequence. Association is the explanandum. Saying two ideas are associated, according to the regularity view carries no commitments about the mechanisms driving thoughts, while the associative link is the posited mechanism (and is thus a less flexible treatment, as we’ll see). Brown was not an outlier; because he saw these issues, he was exceptionally clear in understanding the explanatory role of association in associationism.

Thus, I propose that we view associationism generally on Brown’s model. Brown’s approach implies that the various associationists shared a common project rather than a common theory. They shared the view that regularities in the sequence of thought were the primary phenomenon in psychology, and attempted to find the relations between ideas that predicted them. They did not share any particular theoretical posit, even the associative link. Associationism is, at most, a patchwork of similar theories. If we view associationism as a project, we can explain the similarities and differences between associationist theories. Different authors generally encounter the same questions while pursuing the shared project, but sometimes offer different answers. This substantively changes the way we think about associationism, how it differed from other traditions, and why it fell. Associationism did not fall out of favor in the late 19th century because association is intrinsically limited. It fell because the more limited associative link view of association dominated.

I begin by describing two manifestations of the ambiguity of association that came before Brown and influenced him; the first in the work of the associationists Hume and Hartley, and the second in the work of the Scottish philosophers Reid and Stewart (Section 2). I then discuss Thomas Brown; first his influences and views on inquiry, then his view on association and the associationist project (Section 3). Despite Brown’s work, the ambiguity went unresolved in the tradition at large after his (early) death. Indeed, the associative link was largely responsible for decline of associationism (Section 4). Finally, I discuss the influence that Brown’s conception of association has on how associationism should be viewed generally (Section 5). Sections 2–4 are organized chronologically, while Section 5 provides more general discussion.

2 Early manifestations of the ambiguity

Associationism has roots that stretch as far back as Aristotle, but it became a real theory of mind in the work of Hume and Hartley in the mid-18th century. As the concept of association was adapted in genuine attempts at understanding the mind, the ambiguity between the two conceptions of association arose. These two authors (and many who followed them) talk about association in ways that evoke each conception of association at different points in their work. The ambiguity was also present in a different form in the work of the two most prominent members of the Scottish ‘common sense’ school, Thomas Reid and Dugald Stewart. While they were not associationists, association played an explanatory role in their psychological systems. Brown’s treatment of association was a reaction to both of these manifestations of the ambiguity.

2.1. Hume and Hartley

Hume was the first to base a theory of mind on association. He introduces the concept in both of his major works by noting that there must be some connecting or organizing principle that explains regularities in thought. For instance, his section on the association of ideas in the Enquiry begins: “It is evident, that there is a principle of connexion between the different thoughts or ideas of the mind, and that, in their appearance to the memory or imagination, they introduce each other with a certain degree of method and regularity” (1775, 23). Throughout both works, he regularly refers to association as a union, bond, and connection. The question is how literally that ‘connection’ should be taken: is it that there some connection between ideas that explains these regularities, or is the connection just the regularity, to be explained by some unspecified principle?

The tradition has been to take the connection literally in Hume’s work, but some of his discussions suggest we should not. Reflecting on the nature of the connection, Hume says: “we are only to regard it as a gentle force, which commonly prevails, and is the cause why, among other things, languages so nearly correspond to each other” (1788, 10). In justifying the inclusion of resemblance as a category of association in the Treatise, he says: “Its plain... our imagination runs easily from one idea to any other that resembles it, and that this quality alone is to the fancy a sufficient bond and association” (1778, 13). In general, Hume writes as if the mere fact of resemblance (or any other relation specified in his laws) is the connection, rather than the basis on which some mental connection is established. This requires no connection in the mind.

On the one hand, Hume treats association as an explanatory principle. On the other, he treats association as the obvious phenomenon of regularity (1775, 24; regularities in thought are obvious, while the particular treatment of the associative link is not). And the ‘connection’ often appears to be the mere fact of relatedness. These two ways of talking about association display the ambiguity.

The ambiguity manifests similarly in Hartley’s work. Hartley refers to association in different passages as combination, coherence, and connexion (Hartley, 1749/1966, 74, 101, 105, respectively); in so doing, he takes himself to have discovered the fundamental principle of psychology. Even so, other portions of his work suggest the regularity view. He begins his discussion of association by describing it as an obvious phenomenon which everyone has been aware of since the ancients. Most importantly, his early discussions differentiate association, as mere sequence, from the power a sensation has to bring an idea to mind:

Prop. 10: Any Sensations A, B, C, &c. by being associated with one another a sufficient Number of Times, get such a Power over the

2 For instance: Young (1968, 1970), Bever, Fodor, & Garrett (1968) and Anderson & Bower (1973, ch. 2). Modern uses of associative models assume the same (see Buckner, 2011; Mitchell, De Houwer, & Lovibond, 2009).

3 His work on causation has received some recent attention (Mills, 1984; Psillos, 2011).
corresponding ideas a, b, c, &c. that any one of the Sensations A, when impressed alone, shall be able to excite in the Mind, b, c, &c. the Ideas of the rest... Sensations may be said to be associated together, when their Impressions are either made precisely at the same Instant of Time, or in the contiguous successive Instants (1749/1966, 65).

Association itself is just co-occurrence. The power the sensation gains over the idea is something different. Again, Hartley talks about association in two different ways, betraying ambiguity.4 Neither author resolves the ambiguity, though Hume is more reflective on the explanatory role of association. His most intriguing comments come in the appendix to the Treatise, where he recognizes that the claim that ideas are connected in the mind seems to contradict his more general rejection of causal powers:

when I proceed to explain the principle of connexion, which binds [ideas] together, and makes us attribute to them a real simplicity and identity; I am sensible, that my account is very defective... If perceptions are distinct existences, they form a whole only by being connected together. But no connections among distinct existences are ever discoverable by human understanding. We only feel a connexion or determination of the thought, to pass from one object to another (1978, 635).

Hume, here, is torn between the thought that ideas are literally connected, and that they simply tend to come together. He is aware of the problem I have raised, though he does not frame it as an ambiguity between two conceptions of association.5 With the benefit of hindsight, I suggest that Hume is torn between the associative link and the regularity view of association. He never resolves this concern, nor does he change his language when he later wrote the Enquiry.

Hume also states that his account is incomplete in three ways. He expresses uncertainty about the completeness of his list of laws: “that this enumeration is complete, and that there are no other principles of association except these, may be difficult to prove to the satisfaction of the reader, or even to a man’s own satisfaction” (1755, 24). And he is clear that thought does not always follow these regular sequences: “Nor yet are we to conclude, that without it the mind cannot join two ideas; for nothing is more free than that faculty [imagination]” (1978, 10). And finally, he suggests there must be some cause of association that is more basic to human nature: “[association’s] effects are every where conspicuous but as to its causes, they are mostly unknown, and must be resolv’d into original qualities of human nature which I pretend not to explain” (1978, 13). These caveats make more sense with the regularity view than the associative link: the associative link rules out other explanations, while the regularity view requires explanation and carries no principled restriction of what posits can do.

Hume’s last passage about possible causes of association previews the second guise that the ambiguity took: Association is either a causal principle that brings thoughts in sequence, or is it just the sequence itself; the effect of some other cause. This difference is clear in the work of the two most prominent members of The Scottish School, Thomas Reid and Dugald Stewart.

2.2. Reid and Stewart

Thomas Reid uses the term ‘suggestion’ to refer to instances of transition between thoughts without any implications about the mechanism responsible (usage Brown adopts).6 Reid uses the term because it applies more broadly than association: suggestion can be driven by any of the faculties, while association is restricted to the single faculty of habit (and thus, sequences related by prior contiguity). For Reid, association is an effect of habit, which is one of several causally prior native faculties. This is a radically different view from the associationists in many ways, but with respect to the question at hand, it is just one side of the same ambiguity. Reid is effectively taking the regularity view of association, and positing a faculty as its cause.

Dugald Stewart (1753–1828) reverses the causal order between association and habit, and thus argues for the other side of the ambiguity. For Stewart, association is a distinct operation of the mind. It produces habits based on sequences driven by the other faculties. The faculties can generate novel sequences of thought (this is important for explaining first instances of sequence, and, particularly, logical thought). Association can then make these sequences habitual. For Stewart, association is the cause and habit is the effect.7

This reversal of causal priority implies a reversal of explanatory priority. While Reid saw association as an effect of the explanatory principles, Stewart sees association as an explanatory principle. The question for Stewart is how broadly it applies. Stewart says the associationists “boast to have explained synthetically all the phenomena of the Mind” (1855, 11) with the single principle of association. Indeed, Priestley had argued that Reid’s faculty psychology failed to trace the phenomena to its ultimate source, association, Stewart responds to Priestley by quoting Reid on the limits of inquiry:

The labyrinth may be too intricate, and the thread too fine, to be traced through all its windings; but if we stop where we can trace it no farther, and secure the ground we have gained, there is no harm done; a quicker eye may in time trace it farther. (Reid, 1872a, 99; quoted in Stewart, 1855, 12)

Stewart doubts that psychology has discovered its ultimate principle, but he does not rule out the possibility that all of the faculties might, eventually, be found to be products of association. This quote parallels Hume’s about the ultimate causes of association (above), but the order of analysis is reversed. In Hume, the question is whether we can trace the thread far enough to find a principle of human nature to explain association; in Stewart, the question is whether we can trace the thread far enough to tell whether association explains the faculties generally (as he has with the particular faculty of habit).

This difference between Reid and Stewart is another manifestation of the ambiguity in Hume and Hartley: association is either regularity in sequence, or is it a posited explanation of regularity. None of these authors recognize the ambiguity, though Hume and Stewart seem to be aware that there are issues. They were Brown’s

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4 Both Hume and Hartley also treat association as an explanation of how complex ideas are formed from simple ideas. A complex idea is formed when an association is strengthened until it unites two simple ideas. This “simultaneous” association was distinguished from “successive” association by later associationists (Warren, 1921). For Hume and Hartley, association effectively unites these two distinct phenomena, which may motivate their seeing it as a real ‘connection’ in the mind.

5 This comes in a discussion of personal identity, but the basic worry is the same.

6 Reid did not originate this use of the term, though he seems to think he has. He apologizes when introducing it, saying “I know not (a word) more proper” (1872a, 111). Dugald Stewart finds this surprising, as Reid’s usage is so similar to Berkeley’s (Stewart, 1828, 317). It is not clear from Berkeley’s use of ‘suggestion’ whether it depends on anything like an associative link (Berkeley, 2008, Sect. 9.). A critical discussion of Reid’s use of the term can be found in Winch (1933).

7 For discussion of this difference between Reid’s and Stewart’s views, see Mortera (2005).
biggest influences, so it is no accident that he was the one to make the ambiguity explicit.

### 3. Thomas Brown

Brown’s unique philosophy results from his historical place at the intersection of the associationists and the Scottish school. The Scottish school was his most immediate personal influence, through Dugald Stewart. Brown took classes under Stewart as an undergraduate at the University of Edinburgh, and later shared the Chair of Moral Philosophy professorship at Edinburgh with him, at Stewart’s request (McCosh, 1966; Welsh, 1825). As a result, Brown’s philosophy is in many ways more characteristic of the Scottish school than the empiricists. Thus, one might question his status as an associationist (e.g. Landes, 1926; Warren, 1921, 71; both authors ultimately affirm his associationist status).

Characteristic of the Scottish school, Brown refuses to speculate on physical or physiological correlates to psychological phenomena. Hartley and many later associationists view a physiological account as an essential aspect of associationism (Warren, 1921, 71; see also Section 4.2). Brown complains that the term ‘association’ is too closely tied to “corpooreal things,” but does not see this as reason to object to it (1840, 404).

Brown also included native “intuitive beliefs” in his account of mind, following Reid and rejecting the standard associationist blank slate empiricism. The most interesting such principle to the current discussion is the native expectation that “like follows like.” For Brown, a single experienced instance of succession is enough to generate a tendency of one feeling to suggest another; the role of repeated experience is as much to weaken or eliminate associations that do not reflect common pairings in the world as it is to strengthen those that do.

These are major deviations from the standard associationist picture. Nonetheless, his psychology is thoroughly associationist: he rejected the Scottish division of the mind into separate faculties, reducing them all to association (Brown, 1840, Lectures 41–43, 51). Brown sees his project as associationist, and the associationist tradition at large agreed.

Brown’s Lectures were read widely in Britain and the US in the early 19th century, going through several editions in only a few years. His work was deeply influential in the associationist school. Two of his ideas stand out as particularly important in later formulations of associationism. He first proposed secondary laws of association, which determine which specific feeling will follow in any particular case (1840, Lecture 37). He also introduced the idea that the latter of two successive feelings need not replace the former, but the former could continue in a virtual coexistence with it. He calls it ‘virtual’ because, in his view, the mind can only be in one state at a time and mental states do not have parts, so there cannot literally be two ideas in mind at once. Virtual coexistence brings complex ideas together without ‘connecting’ them as literal parts of a whole. A new complex idea is formed when a suggesting idea remains, virtually, to coexist with the idea suggested (1840, 101, and Lecture 39).

In sum, Brown was a prominent figure in the associationist tradition in the years after his Lectures were published, despite his unique views.

### 3.1. Brown on inquiry and causal powers

In order to put Brown’s views on association in context, I start with his views on inquiry. Many of Brown’s specific views follow straightforwardly from his philosophy of science, and it will be helpful in showing connections between his views that he does not make explicit. Specifically, his rejection of the associative link (adopting the regularity view) follows from his rejection of causal powers, so both follow from his empiricist philosophy of science.

Brown’s most basic point about inquiry is that both the external world the mind can only be known by the “phenomena which they exhibit.” We know nothing of the substance itself beyond the ways it effects our senses and interacts with other objects (in the external case), or the ways in which it is affected with feelings (in the internal case) (1840, 89–95). Brown distinguishes two lines along which inquiry can proceed: one is the study of interactions into which an object enters, and the second concerns the decomposition of the body into its smaller parts. He refers to the first kind of inquiry as the study of nature in time or sequential inquiry, as it focuses on the successions of phenomena in which any subject of inquiry is involved, and the other as that in space or analysis (1840, 53). Sequential inquiry is of greater interest here.

Like Hume, Brown’s empiricist philosophy of science leads him to reject the notion of a causal power. Brown argues for this view in his other major work, Inquiry into the Relation of Cause and Effect (1835; a shortened version is in 1840, Lect. 7). Causation is nothing other than the invariable sequence of events. All we perceive, and hence all we know are sequences of events. All causal claims are really just claims about sequence. (1835, 27–30).

Appealing to causal powers introduces a new “mystery” to sequences (1835, 26), and cannot explain them. Brown compares causal powers to the Aristotelian substantial form. Both are merely abstractions that have been attributed independent existence. This, he says, is the fundamental mistake of philosophy (1840, 66).

Some posit causal powers to mark a distinction between causal relations and accidental sequences. Brown argues that we simply need to be careful to characterize the sequence properly. For instance, night has always followed day, and we have reason to expect it will continue to do so. However, to think that night causes day is to mischaracterize the relevant relations: the terms night and day do not denote particular phenomena. The properly characterized causal sequence is actually the series of positions of the earth relative to the sun. If we remain precise in this way, Brown thinks that we can separate invariable sequences from other (variable) sequences without marking a special class of causal phenomena, distinct from sequence generally (1835, 123–125, 301).

Thus, Brown rejects the notion of causal powers because of his philosophy of science. Brown views inquiry into the mind and the external world as strongly analogous (1840, 89), especially with respect to sequential inquiry (1835, 100). So, like causal powers, Brown rejects the associative link.

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8 For a sense of the time course of his popularity: Originally published in 1820, the 8th edition was published in 1834, the 16th edition in 1846, and the 21st edition in 1861. This was the latest edition retrieved in catalog searches. These were reprints with minor changes at most, as Brown died before the Lectures were first published. There were also attempts to abridge or reorganize the text: perhaps the most ambitious was James Boyle’s Compendium of Dr. Brown’s Philosophy of the Human Mind, (1849), which was intended as a textbook for university students (the earliest reference found in catalog searches was 1838).

9 My discussion of this interesting feature of Brown’s philosophy will focus on aspects that will be helpful for understanding his views on association. For more complete discussions, see Mills (1984), and Pullos (2011). The first version of Brown’s work on causation was a defense of John Leslie as a candidate for Chair of Mathematics at Edinburgh against attacks on Leslie’s own Humean views (Mills, 1984; Welsh, 1825). While Brown largely endorses the Humean view, the fourth part of the Inquiry is an attack on Hume’s account of how we come to have the belief of causal power, arguing that it is based on innate ‘intuitive belief’ (Brown, 1835, sect. 4).
3.2. Brown’s arguments against the associative link

Brown’s arguments against the associative link come in a lecture titled “Reasons for Preferring the Term ‘Suggestion,’ to the Phrase ‘Association of Ideas,’” (Lect. 40). Despite this framing, he is not actually objecting to the term ‘association.’ He uses the terms ‘association’ and ‘suggestion’ interchangeably when he doesn’t think the connotations of the associative link will be problematic (1840, 399). As he puts it:

That, when two objects have been perceived by us in immediate succession, the presence of one will often suggest the other, - though this second object, or a similar external cause, be not present, - is that great fact, of association, or suggestion, which we must admit, whatever opinion we may form with respect to its nature, or whatever name we may give to it (1840, 399).

This apparent ambivalence makes sense in historical context: the term ‘association’ was ambiguous between the two conceptions. He uses two terms in this lecture because he is pulling these notions apart. But more generally, he takes ‘suggestion’ to capture the real contribution ‘association’ made, so he sees no reason to argue over terminology when the difference doesn’t matter (in earlier lectures), or once he has made his point (in subsequent lectures).

Brown sets up the contrast as follows: Suggestion are events of transition from one thought to another, requiring no commitment as to what causes or underlies these transitions. Associations (full stop) are connections between thoughts that cause suggestions. Associations are causal intermediaries between the ‘laws’ and suggestions. Brown explains the sequence of thoughts directly by appeal to the laws of suggestion. Most associationists, he claims, explain the sequence of thoughts indirectly by appeal to the laws by which associations are fixed (the laws of association), assuming they then cause suggestion (1840, 399). Dropping Brown’s temporary terminology, these are the two views of association. According to the associative link view, association is a link between feelings that causes them to go in sequence, according to (what I am calling) the regularity view, association is just the regularity in sequence. This makes explicit the ambiguity shown above: the two views of association take the term to have a different referent, and thus take it to play a different role. According to the associative link, association is a posit that causes and thus explains sequences of thought; according to the regularity view, association is an effect and an explanandum phenomenon.

Brown argues for a regularity view over the associative link view. He gives three explicit arguments in the crucial lecture. His first argument is based on a simple introspective point. At the time of suggestion, there is no feeling of a link between sequential feelings: one simply arises after the other (1840, 402–403). If there is no feeling of a link, links are not part of the phenomenon under investigation. His second and third arguments target the idea that the link could explain suggestion, even if it is not part of the phenomenon.

His second argument is centered on the claim that other associationists restrict association too narrowly to ideas (as in association of ideas). To Brown, this restriction does not accurately account for many cases of suggestion. In particular, many apparent examples of suggestion by similarity or contrast, upon closer inspection, reduce to a sequence of suggestion due to prior proximity of feelings with a certain structure that association of ideas cannot capture. Brown accounts for these cases by showing that emotions (which are feelings, but not ideas in his taxonomy) are part of the sequence (1840, Lectures 35, 36, 40). For instance, Brown argues that suggestion by contrast implies that the suggesting feeling is a “strange example of its kind.” As a result, it suggests some emotional (in a thin sense) reaction to its peculiarity. This emotion, in turn, suggests the next idea. So the suggestion is based on the prior contiguity between the ideas to the intervening feeling, not on contrast between the ideas directly. To use Brown’s example, when one sees a dwarf, one is struck by his diminutive size. This ‘emotional’ reaction is the same that strikes us when viewing a giant. Thus, the image of the dwarf will suggest one of a giant indirectly via the shared emotional reaction, not directly by contrast (1840, 350–366).

The connection “introduces a new mystery” (1840, 406) and does not answer the original question regarding suggestion. The proponent of associative links, then, simply trades one mysterious phenomenon for another in a circular manner. The narrow version of the argument targets those who postulate associations of similarity or contrast. The question is how the first instance of an association of either kind can occur: Brown points out that a dwarf can suggest a giant even if they have not been paired in thought or perception. If one thinks that this suggestion is driven by an association of similarity or contrast (or indeed, “every suggestion that does not belong, in the strictest sense, to Mr. Hume’s single class of contiguity in time” [1840, 407]), one cannot explain how that association was fixed in the first place. There can’t be any link between the ideas before the first suggestion. The second version is more generally applicable: the only thing that an association does is drive suggestion, so it can only really be described in terms of suggestion, the very phenomenon it was intended to explain. So the ‘association’ itself can’t explain anything, and only adds confusion.

Those are his explicit arguments. While he never makes the connection explicit, his rejection of the associative link is just his rejection of causal powers applied to the mind. Brown has insisted that inquiry into the mind and world are subject to the same basic constraints, and susceptible to the same basic errors. And, after all, the associative link is just a causal power in the mind.

Indeed, each argument against the associative link echoes an argument against causal powers more generally. Brown’s first argument, that there is no feeling of a link, is the same as his main objection to causal powers: that each posits an entity about which we can have no knowledge (1840, 89–95). The link, like causal powers, is a superfluous construct that philosophers have abstracted from the actual phenomena (1840, 92–97). The second argument, about the restriction of association to ideas, parallels his argument against the idea that causal powers are necessary to differentiate true causal sequences from accidents (1835, 122–124, 301–305). In each case, there is no special class of sequences, the key is just to be careful in determining the actual sequence. The
third argument, about the mutual dependence between association and suggestion, directly parallels his arguments that causal terminology is empty beyond the mere fact of succession. In both cases, the posited link or power can only be explained by appealing to the fact of sequence, which it itself is supposed to explain.

3.3. Brown on the associationist project

So Brown’s associationism is a natural extension of his empiricist philosophy of science. The associative link is not a part of the phenomenon under consideration, and it does no helpful explanatory work. What actually explains suggestions are the laws that gave rise to them.

So Brown’s associationist program has two steps: first, carefully determine what the actual sequences are. This is exemplified in Brown’s discussion of the giant in his second argument against the associative link. Next, look for generalities that hold across these sequences; this is how one identifies the laws of association. Once Brown has found the real sequence in the giant example, he notes that the successive feelings are related by prior contiguity rather than contrast. So, to determine the laws of association, one has to collect properly characterized sequences and see how many categories are needed to capture them. These general categories are the laws. As he says, when determining the laws of suggestion, “my object is not to discover facts that are new or little observed but to arrange facts that separately are well known” (1840, 371).

Both of these parts are ongoing projects for Brown. There is clearly much work to do in making sure we have identified the right sequences, and he also thinks it is an open question what the primary laws of association are. He suspects that contiguity is the only law, and that apparent cases of association by similarity or contrast can be reduced to contiguity with the kind of analysis he gives in the giant example. Even so, he does not consider this settled; He decides that, for the purposes of his discussion, it is worthwhile to “avail ourselves of the most striking subdivisions” (1840, 350, 406.), and continues with a threefold classification: similarity, contrast, and prior proximity or coexistence.

This is just Brown’s sequential analysis applied to the mind. We can only know the mind by the ways it is affected with feelings, so the sequence of feelings is the primary phenomenon of psychology. For Brown, associationism is simply an approach to psychology that starts with what he takes to be an obvious and well known phenomenon:

That there is a tendency of ideas to suggest each other . . . and that the suggestion is not altogether loose and indefinite, but that certain ideas have a peculiar tendency to suggest certain other relative ideas in associate trains of thought, is too familiar to you, as a general fact of our intellectual nature, to require to be illustrated by example (1840, 344).

The laws are also nothing more than generalization over these phenomena:

I trust it is now unnecessary for me to repeat, that the term laws, as employed in the physics, whether of matter or of mind, is not used to denote any thing different from the phenomena themselves, - that, in short, it means nothing more than certain circumstances of general agreement in any number of phenomena (1840, 371).

The relevant kinds of ‘general agreement’ are the kinds of relation that hold between sequential feelings. In these passages, Brown echoes passages from Hume and Hartley which I argued above showed an inchoate version of the regularity view of association. Brown notes this similarity. Continuing the passage just quoted:

When Mr. Hume reduced, to the three orders of resemblance, contiguity, and causation, the relations on which he believed association to depend, he considered himself as stating only facts which were before familiar to every one, and did state only facts that were perfectly familiar (1840, 371).

Brown thus traces his view of the associationist project to Hume. Similarly, his discussion of the explanatory circularity in association is influenced by Reid’s and Stewart’s conflicting discussions of association. Brown actually claims that they posited faculties because of the idea that association requires a link. Powers such as imagination are required to explain how the mind can generate novel sequences in thought, which get one out of the explanatory circle (1840, 407–408). But Brown rejects the faculties for the same reasons he rejects association: positing any power is vacuous (1835, 32–76, 1840, 62–64).

So Brown’s adoption and clarification of the regularity view is inspired by, and resolves, the ambiguity discussed in the last section; he ties together and resolves both manifestations of the ambiguity between the two concepts of association. For Brown, association is a phenomenon of sequence, not a connection, and it is the explanandum, not the explanans.

4. Associationism after Brown

Despite the fact that Brown was influential in many ways, his views on association were not widely adopted. There are probably several reasons why. Brown died shortly before his Lectures were published, so he was unable to defend or refine his views in response to criticism. Brown’s substance dualism was also unpopular among associationists, who liked the associative link in part because it was a psychological process that could plausibly be physically realized. Relatedly, other authors likely wanted some mechanism by which prior instances of contiguity can influence future suggestion. The associative link, at least, could persist, and bridge the temporal gap. As a strict Humean about causation, Brown seems happy without such a bridge: nothing needs to intervene between the events for the regularity to hold. In principle, one could adopt a regularity view of association and simply remain agnostic on the mechanism (in, perhaps, another instance of the discussions above about ‘tracing the thread’ far enough back). Even so Brown’s regularity view was not widely adopted, and in fact, the ambiguity of association remained unresolved in the tradition at large.

In this section, I show how the ambiguity manifested in the late 19th century, and how the associative link caused problems for associationists. The associative link limits the flexibility of associationism because it ties it to a specific mechanism. And this limited flexibility was largely responsible for the fact that associationism was thought to be unable to accommodate three major trends of the time: interest in formally explaining logical thought (4.1), interest in neurophysiology (4.2), and the rise of experimental psychology (4.3). These trends ultimately led to the downfall of associationism (at least, in the form discussed here).

4.1. Bradley, Stout, and logical thought

F. H. Bradley titles his chapter on association “The Theory of Association of Ideas.” He opens:

The title of this chapter calls for explanation. “The Association of Ideas,” it may be objected, “is not so much a theory as a fact; a
fact which on the one hand is quite indisputable, and which on the other hand can be discrepant with no theory except a theory which runs counter to fact... The psychological fact of ‘Association’ is of course unquestionable. The account of that fact which is given by the orthodox English philosophy is in my judgment not only questionable but false (Bradley, 1883, 273).

The proposed objection that association is an obvious fact echoes claims by Hume, Hartley, and Brown, manifesting the regularity view. So Bradley is, in effect, defending his understanding of association from a hypothetical proposal of the regularity view. Bradley rejects the term ‘association’ because it is too closely tied to the standard empiricist account. That account cannot explain the complexity of thought, particularly logical thought, because it attempts to explain thought entirely with inflexible links based on simple relations like prior contiguity. His use of the term ‘association’ in this passage is ambiguous: he uses it to refer to the fact and to the theory. So even though Bradley is recognizing different senses of the term, and coming down on one side, his writing betrays the same ambiguity Brown already addressed.

G. F. Stout agrees with Bradley that the standard empiricist account of association cannot explain complex, logical thought. He does not agree that this necessitates rejecting the concept. Instead, he modifies the notion of contiguity from the traditional version to what he called contiguity of interest. Attention, the thought is, can drive some sequences of thought rather than others. This, he claims, would encode meaningful relations in a way that allowed for the kinds of complex thought that the standard association story could not (Stout, 1899, Ch. 2, sect. 3). The key difference is in what the term ‘association’ signifies; Bradley believed it was too closely tied to a particular (false) theory, while Stout saw it as being more flexible. Stout’s view is not necessarily the regularity view, but it shares a similar spirit. It is very much like the views of association in the Scottish school. Some other process directs sequences of thought that become easier with repetition: attention in Stout’s case, habit in Reid’s, and any of the faculties in Stewart’s.

These two authors are still grappling with the same ambiguity. And associationism was losing ground because of it. This exchange coincided with the transition away from associationism approaches to logic, like John Stuart Mill’s, to (now familiar) approaches like those of Moore and Russell.

4.2. Association and the brain

One motivation for the associative link was the thought that a physiological account is essential to an associationist theory was common (Warren, 1921, 71). The associative link is mechanical in many ways, making it a good candidate to be realized in the physical brain. This idea was there from the beginning. Hartley describes “vibrations,” the physical counterparts of associations, as being the ‘cause’ of association (1749/1966, 6), though he expresses uncertainty about the relation in a later scholium (33–34). Others thought about this relation in similar ways throughout the tradition. William James makes the point clearly:

Association, so far as the word stands for an effect, is between THINGS THOUGHT OF – it is THINGS, not ideas, which are associated in the mind. We ought to talk of the association of objects, not of the association of ideas. And so far as association stands for a cause, it is between processes in the brain – it is these which, by being associated in certain ways, determine what successive objects shall be thought (James, 1890, 554).\textsuperscript{11}

This difference, between association ‘as an effect,’ and association ‘as a cause,’ is precisely the difference between the regularity view and the associative link that I have discussed. Thus, the idea (translated to my terminology) is that the associative link is something to be found in the brain. Indeed, such an account could explain what the associative link is, avoiding Brown’s circularly argument.

The problem is that any physiological account was entirely speculative, by necessity, until the physiology of the brain was better understood. The associative link seemed a good candidate a priori, but as the history turned out, it was not helpful in understanding the brain. Early neurophysiologists made the most progress when they attempted to localize functions (like language and vision) in the brain.\textsuperscript{12} This approach was seen as incompatible with associationism because associationism based on the associative link denies that functions are distinguishable.

Just as associationists had previously denied the faculties, they denied functional organization of the brain. Sigmund Freud and Herbert Spencer took this position at different points in their careers. Early in Freud’s career, he argued against functional localization in favor of associationism. He later changed his mind (Henderson, 1992). Spencer moved in the opposite direction. Early, he was a phrenologist (individuating functions), but later abandoned that position and developed an evolutionary version of associationism (Young, 1970). Other associationists, like Alexander Bain and George Lewes, included other concepts with association in their psychologies. Lewes distinguishes between associative ‘grouping’ and ‘logical grouping.’ ‘Association’ refers to the contiguity-based learning process; logical grouping depends on native anatomical organization (Lewes, 1879—interestingly, both of these groupings describe ways that thoughts are sequenced). Bain made helpful advances in understanding the neural bases of sensation, but refused to attribute cortical locations to the “intellectual” functions, which he described in associative terms.

The authors who rejected associationism and sought localized functions, including Paul Broca and David Ferrier, made the greatest contributions to neurophysiological understanding. Ultimately, the associative link did not provide a useful research program in neurophysiology (Young, 1970). So instead of finding the associative link, the field of neurophysiology largely abandoned associationism. If association had been viewed as regularity in sequence, it would have remained compatible with functional localization, just as it was compatible with faculties in Reid’s work (even if it might not have actively contributed much at the time).

4.3. Experimental psychology and the fall of associationism

Even by the strictest standards, psychology had made major strides as a legitimate science during the associationist period (e.g. Boring, 1950). But psychology only became an independent discipline with the rise of experimental psychology at the end of the 19th century. This was the third development that contributed to the downfall of the pure associationist psychologies in that period.

Association remained an important concept among the experimental psychologists. For instance, Wundt (1907) and

\textsuperscript{10} Bradley and Stout were major influences on Moore and Bradley in general (Hylton, 1990), but the specific influence of their views on associationism and logical thought are unclear. Regardless of causal influence, this was the trend at the time.

\textsuperscript{11} James’s term, the “association of objects,” is a rejection of the doctrine of simple ideas and simultaneous association.

\textsuperscript{12} Young (1970) provides a detailed discussion of the rise of brain physiology, and the role association played in it.
James (1890) both took association to be a central concept, though neither identified as an associationist. Both attacked the associationists on the grounds that that they took ideas to be object-like entities that could literally recur in the mind. They took experimental evidence of the variability of memory to refute this. Note, this view of ideas is closely connected to the associative link; there need to be stable ideas for links to be formed between. Indeed, Brown attacked the associative link because of its restriction to ideas (he also argued, against Reid, that this had never been the intended conception of ideas; 1840, 256–257). This was perhaps the dominant position of the experimentalists: association remained a central concept, but authors emphasized the breaks between their views and the associationists before them.

Not all took such a stance. Edward Robinson, in 1932, argued forcefully for a fully associationist psychology. He remarks about the rejection of associationism:

> When associationism is forewarned in these times it is usually because of the final solution that the theory is assumed to have been decided upon for some fundamental problem... but these irrevocable decisions with which the theory is so often charged have been decisions of this or that expositor and are by no means inevitably attached to the central standpoint, which has gone through such an adventurous history. Indeed, there is scarcely an argument advanced against associationism that has not be put forward vigorously as part of that theory by one or more of its prominent advocates (pg. 6).

The concept of association, Robinson argues, is more flexible than it is taken to be. The first such supposed ‘solution’ that he discusses is the associative link:

> “in the case of gravity, there is no need to change the name because the mind untrained in abstract pursuits feels a conceptual necessity for throwing out from earth to moon an invisible taut rope. And in the case of the psychological principle of association there is no cause for dismay if the incautious mind thrusts a bit of figurative glue between the items that are functionally connected” (pg. 12).

Robinson views association as a disposition of certain psychological activities to come in sequence. He is explicit that such a disposition need not have any particular neural realizer (pp. 31–36). Robinson defends an associationist psychology in large part because he adopts a regularity view. He argues, as I have in this section, that other experimentalists rejected associationism in large part because they mistakenly tied it to the associative link.

By the time Robinson was writing, behaviorism had supplanted associationism. So it is telling that Robinson is still fighting the same ambiguity that Brown pointed out; that ambiguity was never resolved by the associationist tradition. And the positions various authors took with respect to associationism in the late 19th century largely depended on their position on that ambiguity. Those who tied association to the associative link condemned associationism for failing to explain complex thought, failing to describe the structure of the brain, and failing to capture new experimental findings. Those who adopted the regularity view saw association as something more flexible, capable of adapting to these new findings and new approaches.

The evident consensus at the time tied association to the associative link, and so associationism fell from dominance. The historical view of associationism might have looked very different if the regularity view held more sway at that time. Perhaps our current view should look different as well.

5. Lessons about the associationist tradition

Brown’s rejection of the associative link makes him appear, at first glance, an outlier in the associationist tradition. But this is true only if one takes the associative link to be the central contribution of associationism, as most modern discussions do. The arguments here show that this is, at best, an oversimplification. Brown’s views of association and associationism motivate a very different view of the associationist tradition. In this section, I sketch this view, and gesture at some of its benefits. It clarifies the relation that the various associationists had to the tradition, it changes in the way associationism contrasts with other traditions, and it changes the way we view the fall of associationism.

Though many specific views were common among the associationists, there was no single theoretical claim that they all shared. For instance, one might expect that associationism was united by a shared conception of association. But Brown was an influential associationist despite rejecting the associative link, the most common conception of association. Even setting Brown’s unique views aside, there was considerable diversity among associationist theories; with respect to the laws, the nature of association, and even the reference of the term. Associationism was, at most, a loose patchwork of similar theories.

Perhaps, then, thinking of associationism in terms of shared theoretical claims is the wrong approach. This would not be a wholly new idea; Bradley felt he had to argue for his claim that association was a theory. Instead of viewing associationism as a theory, I argue that we view it as a project. As I use the terms here, authors share a theory if they explain phenomena in the same ways, making the same posits. The associative link would be the best candidate for such a shared posit. Authors share a project if they attempt to explain the same phenomenon and take a similar approach, even if they produce different theories. Theories share an explanans, projects share and explanandum. The shared project of associationism is just that described by Brown: it takes regularities in the sequence of thought to be the primary phenomenon of psychology, and attempts to explain those regularities by finding the relations between ideas that predict them.

Treating associationism as a project better captures both the similarities and differences among the associationists. They shared a set of questions and approach to answering them explains why certain views were common among the associationists. For instance, this project seeks to explain the sequences of thought by appeal to relations between ideas, rather than the activity of the will. So, it is natural that most associationists took a mechanistic view of psychology. Many explicitly in defending a mechanistic view (Brown included) against those, like Reid and Wundt, who argued that the will has the ability to direct thought. Viewing associationism as a project also explains why most associationists were blank-slate empiricists. This is the end result when one takes approach as far as it can possibly go. Their approach could explain at least some learning, so they took it to explain all learning. More generally, the associationist project is motivated by an empiricist epistemology and philosophy of science, whereby knowledge comes from experience. The conclusion that all everything in the mind comes from experience is a similar extension of that idea. Following the project all the way to the blank slate also motivates the view that percepts or simple ideas are, effectively, atoms from which the mind is built. There has to be some starting point, and that has to be perceptual. Finally, the commonality of the associative link itself makes sense: it is natural to look for realizers of regularities and dispositions, and a link is the simplest realizer for association.
Each of these common views is thus a natural result of the associationist project. But while these views were common, there are counterexamples to each. Treating associationism as a project also explains these differences: various authors pursuing a shared project encounter the same (or similar) questions, but might provide different answers.

Perhaps the most common difference between associationists is the set of laws proposed. Hume included contiguity, similarity, and cause and effect. Hartley and James Mill only included contiguity. Spencer only included similarity. Stout proposed ‘contiguity of interest’ as a law, thus including a non-mechanical processes. Each of these requires a very different psychological mechanism (as often pointed out by associationists and their critics). These are difficult to square with a shared theory, but not a shared project; these differences can be seen as simply different answers to the shared question of what relations predict trains of thought. Associationists also differed greatly in their views of the relation between simple and complex ideas (see Warren, 1921, 7). These are differences in how one characterizes the mental states related by association, and the relation between perception and thought. Also, Brown disagreed with the common blank slate empiricism because the thought the learning process needed some ‘intuitive beliefs’ to get off the ground. Finally, authors differed in how they thought the concept of association fit into the project. Brown’s regularity view is perhaps the prime example, but not the only one. Lewes (1879) attaches the term ‘association’ to the contiguity-based learning process, and allows for other mental processes that drive logical thought. Importantly, even these processes are characterized as ‘groupings’ of ideas such that they fit into the associationist project described here. Spencer (1881) allowed for associations to be transmitted to offspring (he was a believer in inheritance of acquired traits generally), so he took the associative learning mechanism to span generations.

If we view associationism as a project, theoretical diversity is natural and expected, rather than awkward. The various associationist theories are a collection of different ways of following through on this research program; there is no need to find a common thread, or to characterize them as merely some ad-hoc patchwork of loosely similar theories. This view also captures what differentiationism associationism from other traditions: Other traditions aim at different phenomena than the sequence of thought, rather than simply explaining it differently. Reid, for instance, the founder of the Scottish school, argues that the faculties are part of the train of thought (1872b 379–380). They are part of the phenomenon, not merely explanations of it. Reid and Stewart seem to simply assume association is restricted to contiguity, rather than considering what relations might explain sequences in thought. This is not merely a difference in theory; it is a difference in project.

Finally, this view changes the way we think about the downfall of the associationist theories. The problem is not that association itself was too inflexible of a concept to explain thought. The problem was that the wrong view of association won. Had the regularity view dominated, association need not have any problem with the complexity of thought, with functional localization in the brain, or with the rise of experimentalism. The project of finding relations between successive thoughts, while remaining open to allowing different explanatory posits, could be useful for all these projects. Psychology at the end of the 19th and beginning of the 20th century would have looked very different. The behaviorist rejection of introspection may have come anyway, but even that transition would have looked very different.14

6. Conclusion

So Brown’s views shed a different light on associationism generally, and the resulting view has much to recommend it. The goal is not to define associationism, or refute other characterizations of the tradition. The claim is simply that treating associationism as a project gives more helpful answers to some questions about associationism. It provides a particularly helpful characterization of how the various associationists fit together. The associationists attempted to explain regularities in thought by appeal to the relations between the ideas. The associative link, as a mediating causal power, was not essential to this project. Nor was any particular characterization of association or any particular set of laws of association. And this is true even if the regularity view was never the dominant view of association. The various theories demonstrate different ways of following through on the shared associationist project.

On this reading, Thomas Brown was the paradigm associationist, not an outlier. He best understood the project that they all shared, and the role that the concept of association played in it. He avoided ambiguities and unnecessary commitments that troubled associationists before and after him. Because the notion of association provided by the regularity view is more flexible, it may be helpful to modern psychology as well: perhaps this view can give new life to an old, and some think worn out, concept.

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References


14 The concept of association was just as central to the behaviorists as it had been to the associationists, so behaviorism could be seen as a modified associationism (e.g. Bever et al., 1968; Robinson, 1932; Warren, 1921). It is arguable that a similar ambiguity in association remained in that tradition, loosely mapping onto the distinction between methodological behaviorism and radical behaviorism.