Chapter 3: Structures of the Associationist and Common Sense Traditions

Chapter 2 established the basic shape of a fairly complex analytical apparatus that can be used to talk about issues surrounding the study of mind in eighteenth and nineteenth century Britain. In that discussion, I introduced an array of tools that have been developed in STS and related fields to characterize scientific and philosophical work. These include notions of paradigms, game-structures, intellectual networks, boundary-work, and historical problematics, among others. As I have demonstrated, these various proposals for structuring an historical narrative are all contestable and, at one level or another, problematic. Nonetheless, one must begin somewhere. In questioning that set of historiographic frameworks, I think a path forward has begun to emerge. If we take seriously the questions that these frameworks pose, and the tools that they offer, we can make a substantive first pass through the history of British studies of the mind in the nineteenth century.

Still, it should be understood that the answers that will emerge are the product of a particular analytical machine. The previous chapter has provided a rough language for talking about the development of intellectual work, and in what follows I will use this language as among friends, with all the usual caveats. When I interject terms like 'paradigm' into the discussion, it is with the full ugly connotation of the last chapter – where the many facets of the term are held up to the light.[1] But analytical terms are only part of the battle. Producing answers to the kinds of questions posed in my historiographic development – about 'what is science?' and 'what is philosophy?' for example – requires a special set of tools. At the end of chapter 2, I proposed a four-fold structural analysis that would juxtapose information about the concepts, texts, referential icons, and personal associations of the figures in my history. I will discuss the relationships among these structural features at greater length below. What is important to keep in mind from the outset is that this chapter will serve as a test of the value of this

[1] This is one alternative to trying to fashion a new analytical terminology from whole cloth. Such an attempt would require an extended effort, would be premature without evaluation of the current terms, and would suffer from lack of familiarity – even if not generating charges of obscurity from readers versed in the current idiom. I consider that my solution here – to embrace the sophisticated sense of the existing language – is the lesser of two evils. I will reevaluate this decision in my conclusions.

set of tools and of their success in answering questions within the chosen historiographic framework. I do not pretend that this analysis will be definitive. Instead, I hope that it will resolve or clarify some of the questions posed within fairly established frameworks, and perhaps help pose new better questions to ask about the matter at hand.

This chapter, then, will explore a circumscribed body of intellectual work regarding the human mind that was produced in early and mid nineteenth century Britain. The specific focus will be on the work of four authors – Thomas Brown, James Mill, Sir William Hamilton, and Alexander Bain – as represented in their salient texts – respectively, Brown's *Sketch of a System of the Human Mind* [1820], Mill's *Analysis of the Phenomena of the Human Mind* [1829], Hamilton's *Lectures on Metaphysics and Logic* [1844], and Bain's *The Senses and the Intellect* [1855] and *The Emotions and the Will* [1859].

The primary object of this survey is to show how this work built upon earlier traditions developed in the mid-eighteenth century and attributable to David Hume, David Hartley, and Thomas Reid. These figures each codified a distinct vision of the study of the mind, and the interplay among these three traditions fueled a century of subsequent inquiry in Britain. Hume's *Treatise of Human Nature* [1739/1740], Hartley's *Observations on Man, his Frame, his Duty, and his Expectations* [1748], and Reid's *An Inquiry into the Human Mind on the Principles of Common Sense* [1764] (along with his two major later works, the *Essays on the Intellectual Powers of Man* [1785] and *Essays on the Active Powers of Man* [1788]) form a kind of tri-cornered foundation for the subsequent activities of Brown, Mill, Hamilton, and Bain. It is the main burden of this chapter to demonstrate the character of this relationship.

However, to understand work on the human mind in nineteenth century Britain more fully, it will be important to take up a number of other issues that cannot be captured by a simple comparison of the intellectual systems conveyed in a set of texts. The evolution of a community of thought, as argued in the previous chapter, is a complex and multifaceted process. First, the propagation of intellectual traditions can be regarded as involving systems of concepts (as expressed linguistically) defining the terms in which the matter at hand is to be addressed. The same topic (here, the human mind) can be discussed using a variety of designating terms, connected in various fashions, and with

variable understandings of the scope and domain of the problem at hand. The resulting systems generated within a particular community of discussion can be regarded as a family of related game-structures, where the framework of concepts represents the space of allowed intellectual moves, the map of the space within which discourse on a subject occurs.

Second, it must be recognized that (at least in the case at hand here) these conceptual systems are elaborated within texts. The set of concepts that define a particular thinker's understanding of the human mind reside within, but are not isomorphous with, the text. The same conceptual system can be given alternate presentations within different literary works. Conversely, the same order, style, and manner of textual presentation can be utilized to convey fundamentally divergent concepts. This disjunction between concepts and their presentation has broad significance for the study of intellectual traditions. The conceptual system forms a fundamental unit of comparison between different thinkers on the same subject, in the sense that congruent conceptual systems represent basic similarities in intellectual approach. If conceptual systems are maps of a (proposed) space of discourse, the reproduction of similar systems over time can be viewed as the maintenance of a tradition, the propagation of a paradigm in one sense of the word. In other words, a stable conceptual system is, if not the defining aspect of 'normality' within an intellectual domain, at least a necessary condition for the existence of such normality. However, the vehicles for the propagation of an intellectual tradition are texts.[2] These texts serve a distinct function as exemplary objects within such traditions; in Kuhnian terms, the text-as-exemplar itself plays an important role in an intellectual paradigm. This role is partly

[2] To head off any immediate objections about the scope of this claim, I would emphasize that I am using the term 'text' in a technical semiotic sense that includes but exceeds its denotation as 'book.' A text in my sense is a particular encoding. Homer's *Odyssey* in its original oral form, Hume's *Treatise*, the film *Last Tango in Paris*, and today's Virginia Tech webpage (www.vt.edu) are all equally texts in this sense, although clearly of highly variable utility as vehicles for the propagation of intellectual traditions (my sentence does *not* read "Texts are vehicles for the propagation of intellectual traditions"). It does so happen that the texts under consideration herein *are* all books, and books specifically intended to serve a role in maintaining or establishing intellectual traditions, so the problems of general semiotics can be ignored here in favor of the somewhat more modest task of reading and interpreting books.

symbolic and partly practical. Certain texts take on special positions in a given tradition, perhaps by virtue of the concepts they convey but also possibly because of their rhetorical power, their mode of presentation, or their association with particular contexts. More functionally, in their role as transmission mechanisms, intellectual texts encapsulate conceptual systems and organize them in a fashion that can be appreciated by an audience. This audience may be broadly construed or highly specific, and the form of the text will tend to follow its function in that regard. Thus, an attention to the structure of exposition of a text can reveal aspects of an intellectual tradition distinct from, though related to, the concepts that the texts contain.

Third, and relatedly, we must recognize that the existence of an intellectual tradition is at least in part an attributive phenomenon. That is, an intellectual heritage is something that is *claimed*. We saw in the previous chapter that one possible method of distinguishing science from philosophy was to identify disparities between their attitude to past work, with science perhaps being essentially presentist (according to Kuhn) and philosophy being instead referential to a founding past (identified by Macintyre in Platonism).[3] On this model, then, science obscures its established past and philosophy revels in it. Such practices should be evident in texts. One fairly clean way to identify structural conventions of this type is to examine patterns of reference to previous work. In particular, explicit allusion in texts to salient figures in a particular field constructs a network of icons. This iconic structure can serve as a guide to the acknowledged history of the field: Acknowledgement of important actors in a given area (whether to appeal to their authority, to set them up as a straw man, or something in between) indicates fairly directly whose work the author finds worth consideration by his audience. Conversely, the absence of such acknowledgement shows what can either be taken for granted or simply ignored. Of course, the character of the acknowledgment matters; to gain a proper perspective on the relevance of a citation, we must consider whether it is positive or negative, in what regard it is utilized, and what the substance of the attribution itself is. Fully analyzing the absence of acknowledgement can be an equally complex task, since –

[3] Macintyre is by no means the first to advance this view of philosophy's fundamental orientation. We might recall also Whitehead's claim that "all philosophy consists of footnotes to Plato."

for example – an implicit allusion looks, on paper, much like an assumption of irrelevance (though in one case the silence roars and in the other it holds its tongue). As a first pass, though, we can reserve these subtleties in favor of a fairly neutral survey of practice. A simple mapping of the iconic structure of a given text does not resolve all of the issues surrounding the character of a given tradition, but there is no reason that we should expect it to. In conjunction with other structural features of a work, it can nonetheless be informative.

Perhaps the closest comparisons can be made between these iconic elements and a fourth structural facet, that of the network of personal affiliations in which a given author is enmeshed. In distinguishing the two as, respectively, *iconic structure* and *genealogical structure*, I am trying to filter the sociological depiction of philosophical activity provided by Randall Collins. Collins [1998] analyzes the position of different thinkers in terms of their interconnections within an intellectual subclass. My primary concern is that Collins does not clearly distinguish between actual personal relationships and scholarly heritage. This is not a matter of one type of relationship being more fundamental or influential than another. It could be argued, for example, that the influence of Aristotle on the late Scholastics of the seventeenth century was more important than the influence of their schoolmasters in the Jesuit academies (the reverse can be argued as well). Or, we might consider that Newton's influence on Hume was stronger than that of Hume's Newtonian professors in the Rankenian Club (or not). What is important is that the two interactions are of fundamentally different orders: On the one hand, we have concrete social relationships, based on identities as student or teacher, colleague or correspondent. These are what I will call the genealogical structure in which a particular author finds himself. On the other, we have relationships that – however influential – are fictive, maintained through the kind of acknowledged intellectual indebtedness that is captured in part by iconic structure. In order for a discipline or (more generally) an intellectual pursuit to persist in a given social milieu, a genealogical structure is necessary. For a tradition to be propagated, one must teach and be taught, and one must have a community of discussion. Iconic structure, by contrast, is elective; one can choose to recognize an intellectual lineage or not (the latter pattern being, according to Kuhn's research, characteristic of much modern science). Indeed the

contrast between these two orders can provide one means of assessing the patterns characteristic of particular traditions. Thus, by itself, genealogical structure shows the direct mechanisms of transmission of a discipline. In conjunction with iconic structure, it reveals broader patterns of influence.

Indeed, all four of these identified levels of structure interact significantly. As a group, they focus attention along an axis running from the social embeddedness of texts to the textual encapsulation of concepts through social dialogue. I will use these four aspects of intellectual tradition to focus my analysis of the propagation of work on the human mind in nineteenth century Britain. I do not maintain that these exhaust the possible levels of structure that may be significant in this regard. Even less do I exclude non-structural influences, such as the stark contingency of historical facts. However, to pursue the sorts of questions regarding the development of intellectual institutions and specialties that were posed in the previous chapter, I think these provide a reasonable start.

The following sections will address in succession, and relative isolation, each of the four structural aspects I have outlined – conceptual, expository, iconic, and genealogical. In each case, I will begin by elaborating the patterns evident in the eighteenth century work of Hume, Hartley, and Reid. I will then examine the propagation of these traditional forms in the nineteenth century elaborations of Brown, Mill, Hamilton, and Bain. The first three levels of structure can be extracted, in large part, from the primary texts already identified. In some cases, a full elaboration of the conceptual structures being deployed by these authors will require consultation of their other works; this is especially the case for Reid – whose *Inquiry* only hints at the full scope of his system as later developed in the two volumes of *Essays* describing intellectual and active powers – and Brown – whose *Sketch* remained incomplete upon his death but which closely mirrors the system already established in his *Lectures* from the University of Edinburgh. Also, differences in expository and iconic structure among such parallel depictions of each author's system in different texts will be an interesting secondary concern. Genealogical structure cannot be obtained from within the texts at all, but instead requires biographical detail available in secondary sources (and, in some cases, the authors' own memoirs).

Having considered these various isolable aspects of the progress of British studies of the mind, we will be able to take a step back and see what they amount to as a whole. In the final section of this chapter, I will show how these four strands reflect upon the theoretical frameworks for the study of science and philosophy in Chapter 2.[4] In this endeavor, resonances among the various structures will be of great interest in identifying patterns of change in practice. Also, since none of the methodologies examined in the previous chapter incorporate all of the aspects I am considering, the case at hand in this chapter provides the opportunity to assess the relative strengths and weaknesses of existing prescriptions for the study of science and philosophy, and the prospect of a synthesis that may avoid some of the individual pitfalls of these methods.

It should be emphasized here that the critical analysis of intellectual structures in which I am engaged does not fall comfortably into established modes of interpreting work on the philosophy or science of mind (or science and philosophy more generally). At the risk of gross oversimplification, the distinction is as follows[5]: The dominant tradition in philosophy of science has emphasized argumentation, and the analysis of modes of argumentation. Orthogonally, the history of science has attempted mainly to assess outcomes or consequences of scientific enterprises, whether material, practical, social, or intellectual. I am attempting neither of these projects, though both are clearly valuable and necessary. As should be evident from the foregoing development, my interest is in yet another dimension: The four interlinked structural analyses that I will now enter into are conceived as a means of describing the world in which my authors operated – the conceptual systems that they each deployed for the study of mind; the textual expositions by means of which they delivered these systems, the icons to which

[4] The canny reader will have noticed that, in this introduction, I have used 'intellectual tradition' as a neutral descriptor of the work I am analyzing. This gesture is intended to leave open questions about its possible identity as either scientific or philosophical. Insofar as either label is appropriate (or, better, useful) to the work of my seven authors, this will – I hope – emerge as a conclusion from my analysis rather than an assumption.

[5] There are, obviously, many variants on the pocket sketch I develop here of philosophy and history of science. Furthermore, those enterprises are not so starkly independent as I may superficially suggest. Nonetheless, I think there is a hard grain of truth to the depiction of the two as, respectively, stressing argument and consequence. Nothing stands or falls on the absolute truth of this, however, as long as it is recognized that argument and consequence are *not* my concerns.

they felt it appropriate to refer to position their texts; and the social networks within which they traveled while developing their work.

My development will begin with the assumption that these texts, and their authors, form a heterogeneous set. They will be treated as (at least potentially) describing different subject matters, having different objects, and establishing different conclusions. To the extent that patterns of continuity emerge, this will be a product of my analysis, rather than a starting point. At the outset, I will attempt only to depict what work on the human mind was like during the period of interest, and what the project(s) of the authors were in pursuing this work: What were the relevant phenomena, and how were they organized? What was the understood significance of the study of mind in this intellectual community? What purpose did an ongoing tradition of text writing on the subject serve? Did this result in discipline formation or professionalization? How did the intellectual landscape change over the period in question and why did it end? While I hope to establish certain trends within the structural comparisons being made to these ends, we should begin by leaving open any questions as to what – specifically – these trends will be.

3.1 Conceptual Structures

This section provides a schematic treatment of the conceptual systems employed by each author in the tradition(s) I am following. The object is to demonstrate relationships among the central structuring concepts relied upon by these writers in offering their various theories of the mind. To accomplish this, I will use a set of diagrams representing different aspects of each conceptual structure. These figures are intended to serve as a shorthand, conveying in a synthetic form the basic dimensions within which intellectual discussions of the human mind took place. They are meant to be analogous to the conceptual structures of sixteenth century astronomy offered by Barker [2001] (see section 2.3.1), although I use a more elaborate and looser set of visual tools to accomplish my task.[6]

[6] One could argue that a more elaborate and looser set of tools is *required* to map conceptual structures of the mind than to map conceptual structures of astronomy. Just

It should come as no surprise that such a method is highly interpretive. I make no apology for this fact and hope only to convince the reader that mine is a plausible interpretation. I suggest that my method falls prey to the perils of interpretation no more than does Barker's, although I admit that his subject matter – the Copernican revolution – has the advantage over mine in general familiarity. To rectify that disadvantage, I will take care to argue the case for my treatment. The visual aids I employ will be explicated in my accompanying notes, and I will begin by documenting in detail the manner in which a representative figure was developed.[7]

The focus here will be entirely on concepts explicitly advertised by each worker. By building up a depiction of the features attributed to the mind, their interrelationships, and their entailments – from Hume to Bain - we can begin to reveal the incremental process of propagation of the intellectual tradition. This will provide one way of assessing the possible paradigmatic (in a roughly Kuhnian sense) character of the enterprise. While we should not expect changes in the system of intellectual discourse to entirely capture the nature of the work, it is a significant aspect of it. Subsequent sections will, of course, examine the tradition from a series of other perspectives.

3.1.1 Hume

Hume's description of the operations of the mind is given in its most comprehensive form in the *Treatise*. While this early work was formally repudiated by Hume himself – in favor of a series of later, shorter expositions – it will be convenient here to use the original development as representing the standard version of Hume's conceptual system here. As I will discuss in the next section, the later Hume (as evident in *Enquiries* and the *Dissertation on the Passions*) did not significantly revise the basic conceptual structure used in the *Treatise*. While the argumentation Hume used to defend

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such notions were frequently implicit in the work on the mind being studied here, as I will make more clear in section 4.1.

[7] That is, the first figure in the following treatment – Figure 3.1 – will serve as an example of how the diagram was generated, systematically extracting each element from Hume's text. Subsequent figures have been constructed in the same way, but I will not continue to indicate this explicitly, as it would take up far too much time and space here.

his position was altered between the different expositions, the position itself remained effectively constant.

The most fundamental division in Hume's system is that of perceptions into impressions and ideas (see Figure 3.1).[8] Taking this distinction most directly from Locke, Hume maintains that all human perception is of either one kind or the other, with impressions being distinguished most fundamentally by their having greater force or vivacity.[9] Having dispensed with this division in the first passage of Book I of the *Treatise*, Hume effectively ceases to employ the term 'perception' at all, using instead the more specific designators. He also identifies another dimension to the problem at hand, that of complexity. Besides the primary division into weak and violent, along a scale of vivacity, he suggests an independent one into simple and complex, along a scale of complexity.[10] Within these two dimensions, there are additional significant features. Simple ideas are generated exclusively by simple impressions, while impressions are resolvable into two species according to whether they are generated by sensations (externally to the self) or by reflexion of ideas (internally).[11] While ideas inhabit a

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[8] "All the perceptions of the human mind resolve themselves into two distinct kinds, which I shall call IMPRESSIONS and IDEAS." [*Treatise*, p.1]

[9] "The difference betwixt these consists in the degrees of force and liveliness, with which they strike upon the mind, and make their way into our thought or consciousness." [*Treatise*, p.1]
and
""The first circumstance that strikes my eye, is the great resemblance betwixt our impressions and ideas in every other particular, except their degree of force and vivacity." [*Treatise*, p.2]

[10] "There is another division of our perceptions, which it will be convenient to observe, and which extends both to our impressions and ideas. This division is into Simple and Complex. Simple perceptions or impressions and ideas are such as to admit of no distinction nor separation. The complex are the contrary to these and may be distinguished into parts. [*Treatise*, p.2]

[11] Hume's first general proposition in the *Treatise*: "*That all our simple ideas in their first appearance are deriv'd from simple impressions, which are correspondent to them, and which they exactly represent.*" [*Treatise*, p.4]
and
"Impressions may be divided into two kinds, those of Sensation and those of Reflexion. The first kind arises in the soul originally, from unknown causes. The second is derived in great measure from our ideas." [*Treatise*, p.7] Hume proceeds, after this passage, to clarify that impressions of reflexion are immediately dependent on ideas, but that these ideas are themselves the consequent of other impressions.

weaker portion of the vivacity spectrum, there is some overlap possible in the region characteristic of memory. Ideas of memory are those with more force, more closely related (in experience) to impressions; ideas of imagination occur at a lower end of the scale.[12] Ideas and impressions, in general, can also be contraposed according to a distinction between natural and artificial (or natural and philosophical) aspects. These notions – and also, it will emerge, the complex ideas and impressions – require additional conceptual apparatus to explain, depending as they do on processes of association and relation (see Figure 3.2 and corresponding discussion below).

To this point then, we have established the contours of the fundamental phenomena Hume finds necessary to explain the operations of human nature. This conceptual basis is shown in Figure 3.1, as derived from the accompanying textual evidence from the *Treatise* shown in footnotes. It consists of two dimensions of complexity and vivacity, within which different species of perceptions are classified according to proximate source, and degree of compounding. Correspondent with the vivacity axis, a division between the natural (external, constitutive, ineluctable) and artificial (internal, philosophical, nominal) is suggested, but remains to be explained. The proceeding development will approach the conceptual systems laid out subsequent figures more synthetically, without detailed reference to the original text.[13]

The creation of complex ideas and impressions is accomplished, in Hume's system, by two sets of distinct processes he calls associations and relations (see Figure 3.2). These operate to connect simple perceptions into complex aggregates that we can then treat as units in their own right. The two sets, though, are oriented toward different objects. The 'natural' associations are those three mechanisms by which, owing to our constitution as humans, we connect ideas. They are formally three in number – resemblance, contiguity, and causation. However, Hume prominently reduces causation

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[12] "'Tis evident at first sight, that the ideas of the memory are much more lively and strong than those of the imagination, and that the former faculty paints its objects in more distinct colours, than any which are implied by the latter." [*Treatise*, p.9]

[13] Having demonstrated to here the connection between the text and the schematics I will use to indicate the structuring of each author's intellectual apparatus, I will concentrate more on the elaboration of conceptual relationships in the work than on the minutiae of documentation. The reader can assume a similar correspondence between figure and source in each of the following concept diagrams.

to constant temporal conjunction, so that is more properly a subset of contiguity. Furthermore, while all three nominal species of association are understood to act on ideas, only that of resemblance operates on impressions. Impressions, for the most part, are not Hume's focus in the *Treatise*; instead, he will develop his science of man primarily from the perspective of ideas – taking what Reid would call "the way of ideas."[14]

The products of associative process are new complex ideas, including three classes Hume identifies as modes, substances, and relations. These are only types of idea, not natural categories, but they will serve critical functions in Hume's explanation of human mental activity. Substances, for Hume, are complex ideas that name particular aggregates of simple qualities constituting fictive 'things'. The one that he devotes the most time developing in the *Treatise* is the Self, which he characterizes as a bundle of perceptions within which we introspect continuity. Modes are names for states of being, ways that a substance can persist. The state of Belief is a mode of the Self, for Hume, in which a feeling of acquiescence accompanies a perception. Belief, he further maintains, is generated only by causal inference, among the several associations. Relations are complex ideas designating types of connective links among other ideas or impressions. Since they designate mental phenomena rather than the order of the world, they are 'philosophical' rather than 'natural.' The seven classes of relation that Hume admits are: (1) resemblance, (2) contrariety, (3) quality, (4) quantity, (5) identity, (6) space-time relations, and (7) causation. These can be further divided into those that depend only on ideas (the first through fourth classes) and the remainder, which are also contingent on matters of fact (and, thus, impressions).[15] Members of the former group are the only relations that generate certain knowledge, and thus science.[16] This process can operate either immediately (as with certain judgment of the similarity of two things) or through demonstration (as with determination of the numerical equality of two sets).

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[14] Pertinent to this, while Hume discusses the structure of space and time at length, as preface to the problem of contiguous association, resemblance is left as an almost empty category (its constitutive character is unexamined).

[15] This is made more clear in the *First Enquiry* [pp.17-22] than in the *Treatise*.

[16] Hume's (and the remaining authors') use of 'science' and 'philosophy' will be a central subject in the following chapter.

Relations provide the mechanism in the third major element of Hume's system – the generation of passions (see Figure 3.3). Hume's famous phrasing was that the passions appear by a process of "double relation." These passions, more modes of the self in Hume's development, are distinct, non-rational states of feeling. They can be divided into two kinds: direct passions - those having no object other than themselves, including most prominently pleasure and pain but also desire, fear, *etc*.; and indirect passions – those connected to some discrete object, as I will develop shortly. It is this partition that results in the double relation form. All passions have *causes*, in the established restricted sense, which are compounded of a quality and a subject; that is, the complex idea of a relation between a thing (*e.g.*, a house) and a quality (shabbiness) creates in us a passionate feeling in two parts – the direct (that shabby house pains me) and the indirect (*my* shabby house, in reflecting on me, shames me into humility). In the latter case, the object of the Self superadds a special indirect passion to the more fundamental direct passion, making the set of relations a dual one. In fact, to be more precise, there are *four* relations involved in this process: that between quality and subject, forming cause; that between cause and direct passion; that between cause and object, further compounding the cause; and that between this second order cause and the indirect passion. Nonetheless, the duality Hume proposes is between direct and indirect.

The indirect passions and their objects form the primary subject of Books II and III of the *Treatise*. It is unclear from the text whether or not Hume intends this discussion as an exhaustive catalog of the indirect passions, but in the event he lists four distinct subtypes. With the exception of the last, these are all bimodal pairs: pride and humility, love and hatred, vice and virtue, and allegiance.[17] These differ solely in their objects and – on that account – their degree of naturality or artificiality. Pride and humility are the indirect correspondents of pleasure and pain, respectively, conjoined with the object of the Self. As an affinity with the self is unavoidable, these passions and their subvariants develop inexorably ('naturally') as the primary passionate mode. Similarly, love and hatred describe pleasurable or painful feelings conjoined with others (other people) as their object. These, too, arise unavoidably from human nature, by extension of our own

[17] To this last, we could pair 'perfidy' and remain consistent with Hume's pattern. The politically astute Hume refrained from this extension.

feelings toward our companions.[18] The development of passions for vice, virtue, and allegiance requires a relational operation with respect to fictive objects like 'justice' and 'nation,' both of which are only ideas. These latter are thus classed as artificial relative to the natural ones that refer to our constitution as social humans.

The scope of Hume's system of the mind is thus as follows: Our basic stimuli are impressions and ideas, from which arise both our rational and non-rational capacities. These exist in a field constituted by axes of vivacity and complexity. Associations and relations compound the simple into the complex. Thereby, they generate both exact knowledge – as relationships between ideas – and direct and indirect feelings.[19] The former problem, that of knowledge, is taken up in Book I of the *Treatise*. Books II and III examine the passions and their consequents, the various forms of moral behavior that arise for humans in society. This apparatus is, for Hume, a sufficient foundation for the study of all phenomena of the mind or, in other words, for the practice of the 'science of human nature.' The *Treatise* outlines the practice of this science only in relation to the basic problems of human behavior in organized society (justice, law, political economy, *etc*.).[20] Otherwise, the work concentrates on the purely mental domain, and represents the first of the Associationist manifestos on mind I will consider in this chapter.

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[18] The process is that of Humean sympathy. Sympathy reduces to a habitual relation between ourselves and others, and is not so powerfully a natural force as Hume's extended attention to it in the *Treatise* might suggest. While it is natural – sense #1 – in arising from unavoidable circumstance, it is not natural – sense #2 – in that it is not a permanent external feature of the world as gravity appears to be. Far from being 'Humean gravity' in the way that some commentators have suggested, it is more like a sort of induced magnetism – a mobilized susceptibility. This latter interpretation, as an aside, fits nicely with the established usage of the term – 'Sympathy' was, the Oxford English Dictionary informs us, a term in general use in the early eighteenth century. Addison, for example, employed it in the *Spectator* in 1711. More distantly, Pliny used it in Hume's sense, especially in reference to the action of magnets. Sympathy in Hume's work as a whole is a larger subject than I can address here, and it demands more serious attention. However, sympathy is *not* a fundamental element of his conceptual system of the mind, but only a name for a particularly pertinent modal function of the self.

[19] I will take up Hume's conception of the relative importance of reason and passion, for the science of man, in the following chapter's discussion of science and philosophy in this conceptual scheme.

[20] It is unclear whether Hume intended this application to be the full extent of his moral science. The employment of a congruent apparatus in the essay, "On the Standard of Taste" suggests not. This is a problem outside the scope of the present discussion.

Figure 3.1: Impressions and Ideas in Hume's *Treatise*

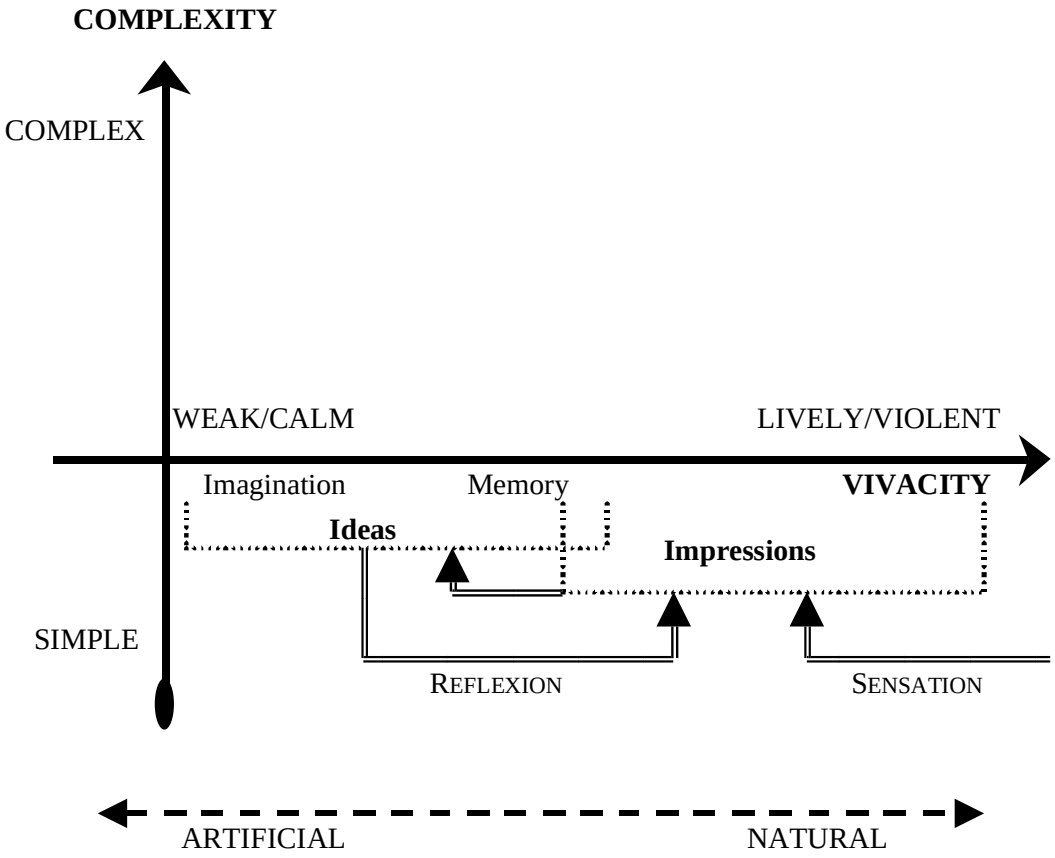


Figure 3.2: Association and Relation in Hume's *Treatise*

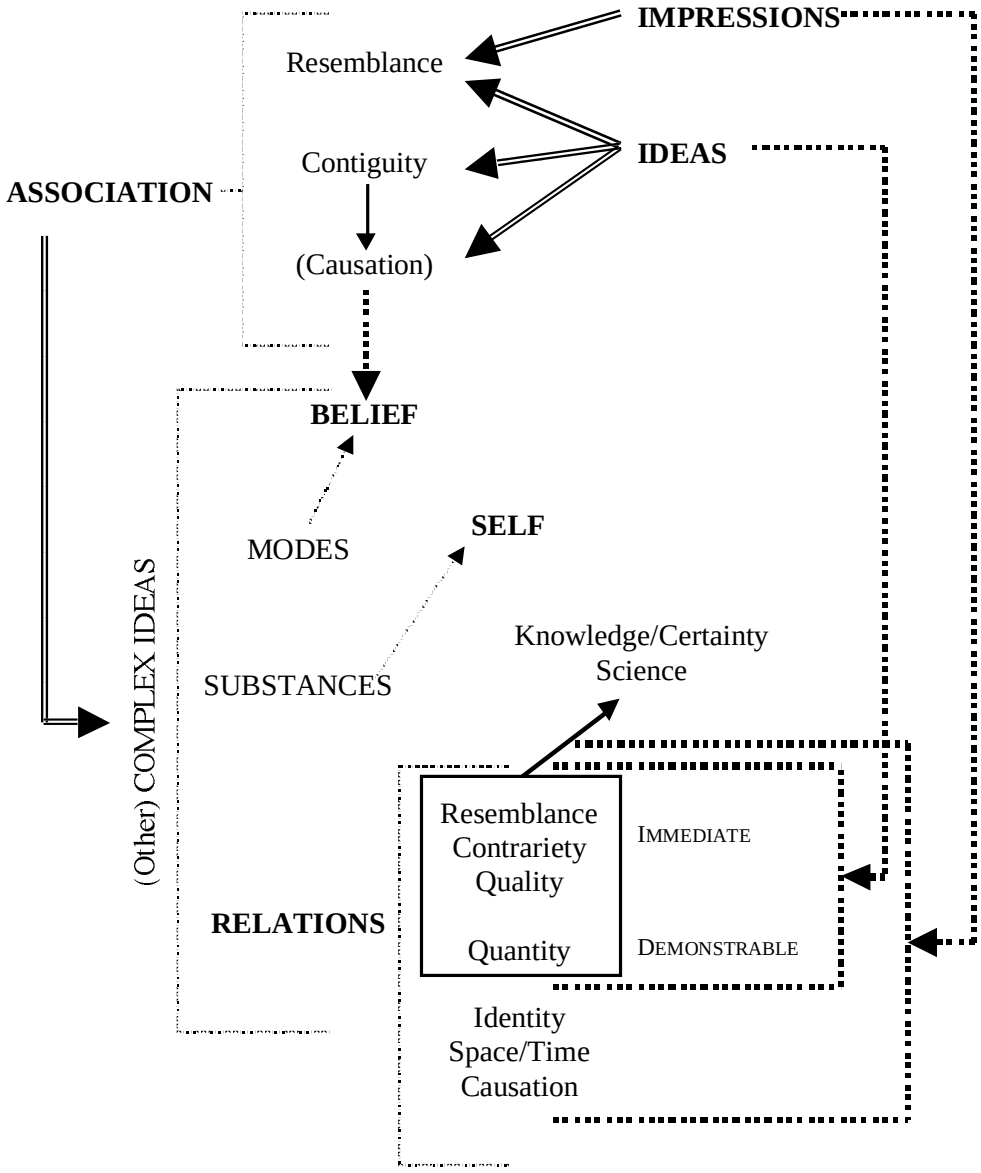
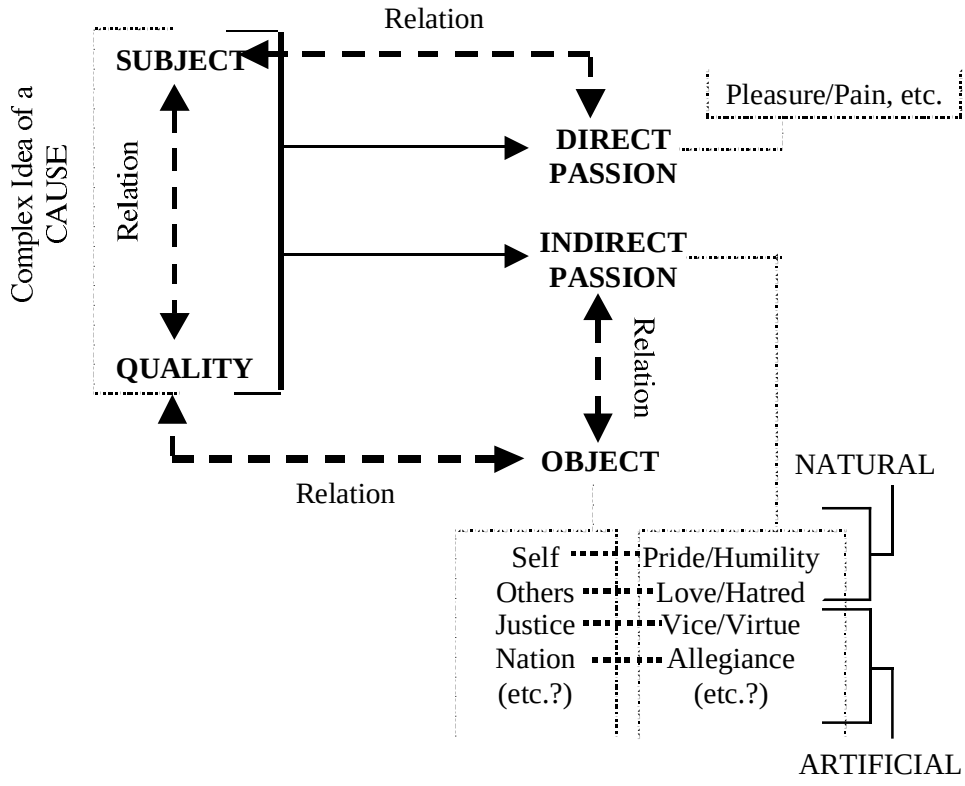


Figure 3.3: Hume's System of Double Relation of the Passions



3.1.2 Hartley

Hartley's associationism differs distinctly from Hume's in flavor. While Hume concentrates exclusively on mental aspects of knowledge, Hartley begins his discussion in physiology. On one level, then, his work is rooted in the experimental method more fully than the *Treatise*, proposing as it does mechanistic demonstration. On another, though, Hartley aspires to a much more abstract goal than Hume does. As Allen notes, Hartley's intent in writing his *Observations* was to detail the "corporeal, mental, moral, and religious capacities" of man. [Allen, 1999, p.81] This is a far cry from Hume's contemporaneous aspiration to establish a science of human nature. Hartley's system, however much it is grounded in physiological detail and empirical observation, must be

recognized as fundamentally a contribution to natural religious doctrine. Not only does he conceive God as the prime mover in the mental regime (as in the material), but also the ends to which his doctrine points are inextricably linked with (dissenting Protestant) Christian morality.

But this is not where the distinctions end. Hume's treatment is firmly descriptive, while Hartley's is instead purposive – even teleological – in its intentions. Association, for Hartley, is an active principle manifesting divine will. The proper association of ideas, for Hartley, elevates man from the mundane to the ethical-spiritual regime. Association, in his hands, thus becomes an engine for divine perfection in the world, a kind of teleological principle with purposeful agency endowed by the Creator. It would, even after death, allow man to ascend from carnality to spirituality in a reversal of the Adamic fall.[21] Association, in providing a mechanism for the transfer of vibrations from the body to the soul, acted as a microcosm of God's action in the world as a whole.[22] This attribution of a divine principle to association provides the clearest justification for Hartley's necessitarian views; free will *must* be an illusion in this system, since body and mind can be connected only through the agency of God. Our mental activity is thus under the direct control of the divine and our choices reflect this input directly.[23]

Hartley's conceptual system, then, is comprehensively overwritten with the established doctrine of eighteenth century natural religion – aspiring to show the actions of the human mind specifically as a manifestation of divine will (see Figure 3.4). As I will discuss more in the next section, revealed religion – pursued through Biblical analysis – formed a partner project to this empirical task. Within the natural domain, Hartley makes a strong distinction between the material regime (that of the body) and the mental regime (that of the mind or soul). His approach will be to describe the action of the body on the mind, assuming God as a vehicle for the connection. From Newton, he adopts the notion of vibrations in an aether to explain the transmission of phenomena to

[21] For more on these Hartleyan notions, see Leslie [1972] and Oberg [1976]. Note also that Hartley's position here closely follows the hermetic investigations of his avowed mentor, Newton (Smith [1987]).
[22] Not unlike the connective role Garber explains for God in the Cartesian dualist system [Garber, 1992].
[23] On vibration, association, and necessity, see Smith [1987].

the mind. These vibrations – and their consequents, more aetherial vibratiuncles – have the properties of intensity, frequency, location and line (*i.e.*, vector). They operate in a manner exactly analogous to acoustic vibrations in solid bodies; and their combination results in complex harmonic signatures. External stimuli impact on our sense organs, generating vibrations that are transmitted through the nerves to the brain by an aetherial medium contained in these physiological features.[24] In the process of entering the mental regime, the vibrations are transformed into vibratiuncles, which are only qualitatively different – being finer, more complex and (of course) non-material. Different sensory organs impart different patterns of vibration into the nervous system and are thus considered in individual detail. Of these, sight and hearing make the most prominent appearance, as most closely related to language.

Hartley emphasizes the role of language in human development, both individually and socially. In regard to the individual, he describes at length the process of childhood vocabulary acquisition as leading toward a rational understanding of the world; similarly, the historical process of increasing perfection he observes in languages (through a comparative analysis of available vocabularies) indicates a progressive improvement of reason from the ancients to his own day.[25] As the ultimate achievement in this process, he recommends the shorthand system of his friend, John Byrom, as a sort of universal philosophical language that can eliminate uncertainty from communication. Given the primary position attributed to linguistic studies in his hierarchy of sciences (for which see section 4.1.2), such a system would play a crucial role in the establishment of a rational scientific world.[26] This is, for Hartley, the most prominent significance of considering the details of sensation.

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[24] Specifically, the white matter of the brain was viewed as an appropriate medium for the propagation of the vibratory mechanism by virtue of its homogeneity and uniformity; gray matter, by contrast, lacked the appropriate features to sustain such vibrational resonances. See Smith [1987].

[25] This parallelism of the growth of language in the group and the individual is reminiscent (and, of course, anticipatory) of the 'ontogeny recapitulates phylogeny' model of Haeckel.

[26] This pattern of attempting to perfect philosophy through the perfection of language has been replicated again and again in intellectual history. It is perhaps most strongly associated with the Logical Positivist movement of the early twentieth century. Hartley's contentions with regard to the Byrom shorthand – which he personally employed in his

While the domain of sensation as a whole straddles the divide between body and mind, with vibratiuncles proposed as the mechanistic connection, ideas – by contrast – are phenomena entirely of the mind (or soul – Hartley uses the two interchangeably). Like Hume, Hartley makes a strong distinction between those mental phenomena that refer to the actual world through sensory mechanisms and those that are generated internally by association. These latter – among which he includes desire, aversion, and the other mundane passions – he terms "factitious" and recommends that they must be transcended as they ultimately lead only to sin and depravity. Sexual desire, in particular, he decries as a base motivation. Such declarations are in strong contrast to Hume's position that "reason is, and ought to be, the slave of the passions." Against Hume (and Locke, who Hartley references as the progenitor of the notion), Hartley argues that reflection is *not* a distinct and genuine mode of receiving impressions, but is proper instead only to ideas. This reinforces the 'factitious' and illegitimate nature he has ascribed to internal feelings.

Hartley's consideration of ideas relies entirely on the mechanism of association, but unlike Hume he identifies only contiguity as a legitimate associational mode. All other apparent types of association can be reduced to connections of simples in space and time. Contiguous association of ideas in the mind creates more and more complex aggregates and forms the basis for all mental functions. Among these capacities are the generation of knowledge, affections, will, memory, and imagination.

Given the divine participation that Hartley assumes, the acquisition of knowledge, or the ascertainment of Truth, can be couched as an unproblematic outcome of the associative process (given due care on the part of the agent). Belief and assent are thus used as effective synonyms for knowledge, and scientific certainty is its predictable consequent. More on Hartley's conception of this resulting science can be found in section 4.1.2.

Similarly, Hartley conceives a multitude of other human capacities to be straightforward results of association. These include the entirety of what we might call intellectual, emotional, and active powers (Hartley does not so describe them). His most

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own writing – are a harbinger of the positivist bid to create a 'perspicuous observation language.'

comprehensive discussion of this subject identifies a dynamic developmental hierarchy of some of these capacities (see Figure 3.5). In the sequence of moral development, sensation is primary, producing – in succession – imagination, ambition, self-interest, sympathy, theopathy (the love of God), and the moral sense (which is, in another sense, the highest order phenomenon. However, each of these capacities has reciprocal action on the others, so that each can – once developed – act upon those that generated it. This structure thus not only allows for the development of higher capacities from lower ones, but also introduces a mechanism by which the baser capacities can be improved in concordance with increasing recognition of divine will.

The human passions, or (equivalently, for Hartley) affections, are – as for Hume – divisible according to a felicific calculus (see Figure 3.6). That is, sensory (bodily) pleasure and pain form the entire basis for the identified passions. Hartley denominates five basic species of mental affections according to the phenomena with which they are associated. Each species is further divisible into grateful and ungrateful modes referring to their associated pleasantness or painfulness, respectively. Thus, the pair of love (grateful) and hatred (ungrateful) are associated with objects in the world (persons, things). Likewise for the relationship of desire and aversion with actions; that of hope and fear with the time over which desire and aversion are sustained; that of joy and grief with the fulfillment of a desire or an aversion; and positive and negative recollections with the past circumstance they re-enact. Hartley's catalog of passions is thus similar to Hume's in basis, but divergent in content. Unlike Hume, Hartley is explicit in couching it as a comprehensive listing.

In comparing Hartley and Hume's systems, we begin to see certain patterns of continuity emerge. The two share a similar terminological base, and many of the same understood dimensions of variation. Nonetheless, they differ greatly in the understood scope of the enterprise, on the expected results of it, and on the constituent parts of the classes of phenomena they identify. I will return to examine these comparisons in the synopsis to this section (3.1.8, below), but let us first turn to the work of Thomas Reid to see yet a third system for describing the mind in this same generation of work.

Figure 3.4: Hartley's System of Sensation, Association, and Human Capacities

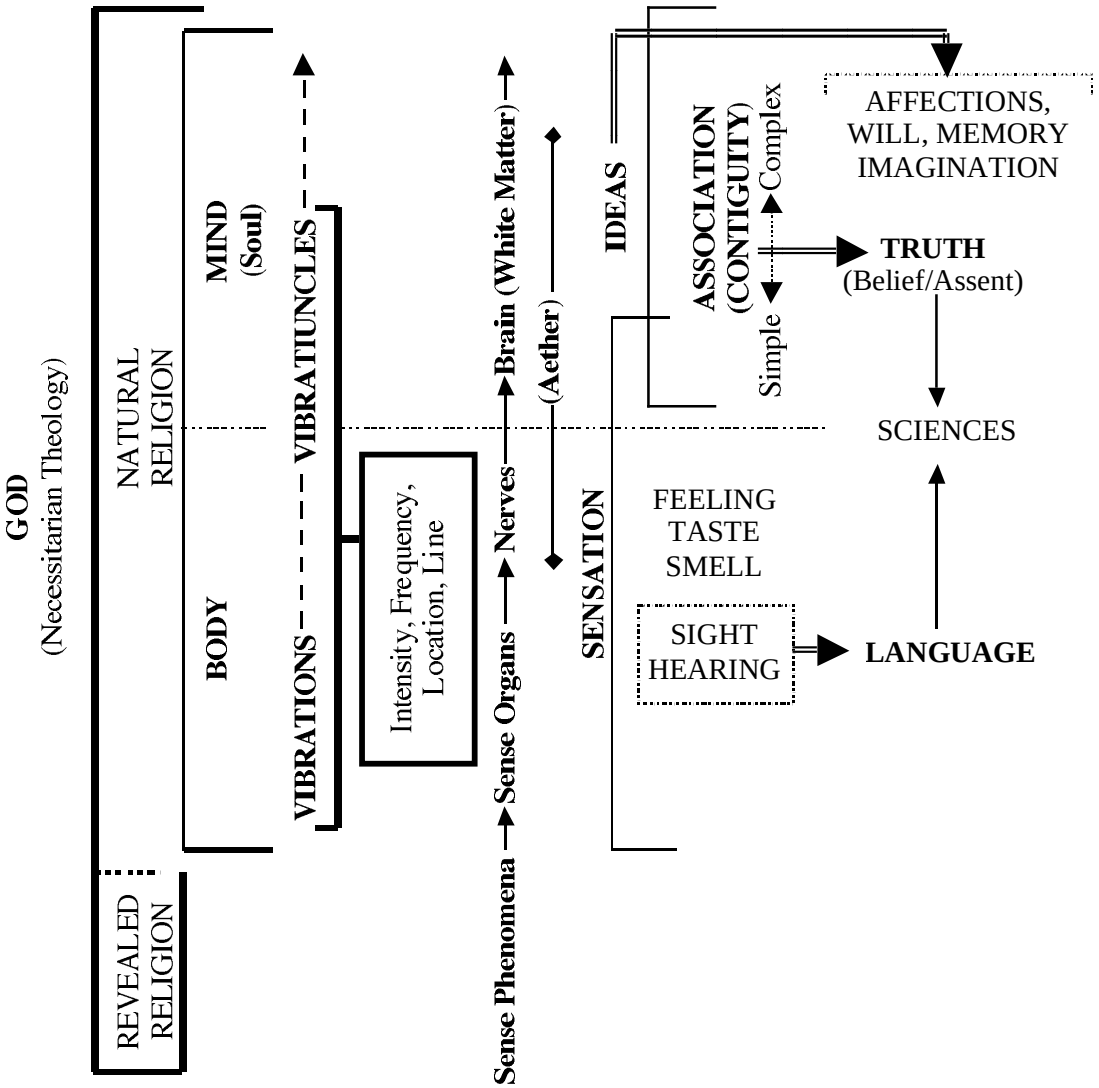


Figure 3.5: Hartley's Reciprocal Compounding of Human Capacities

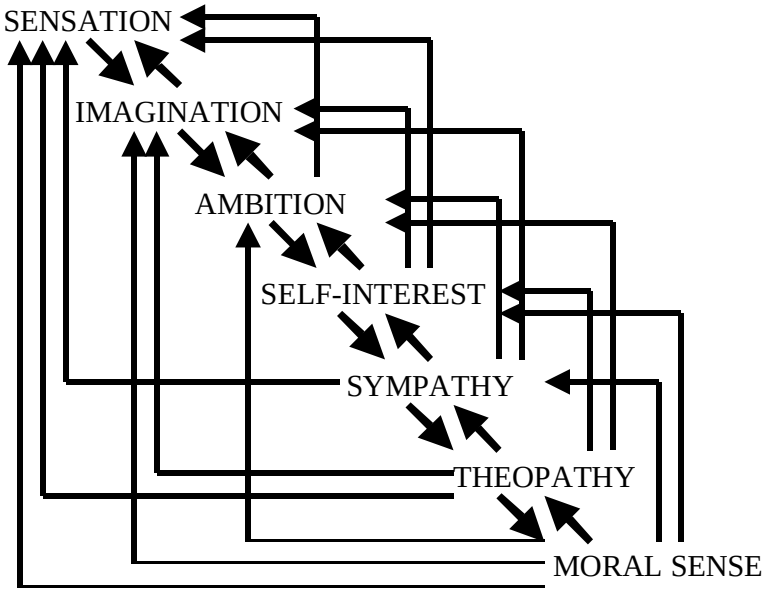
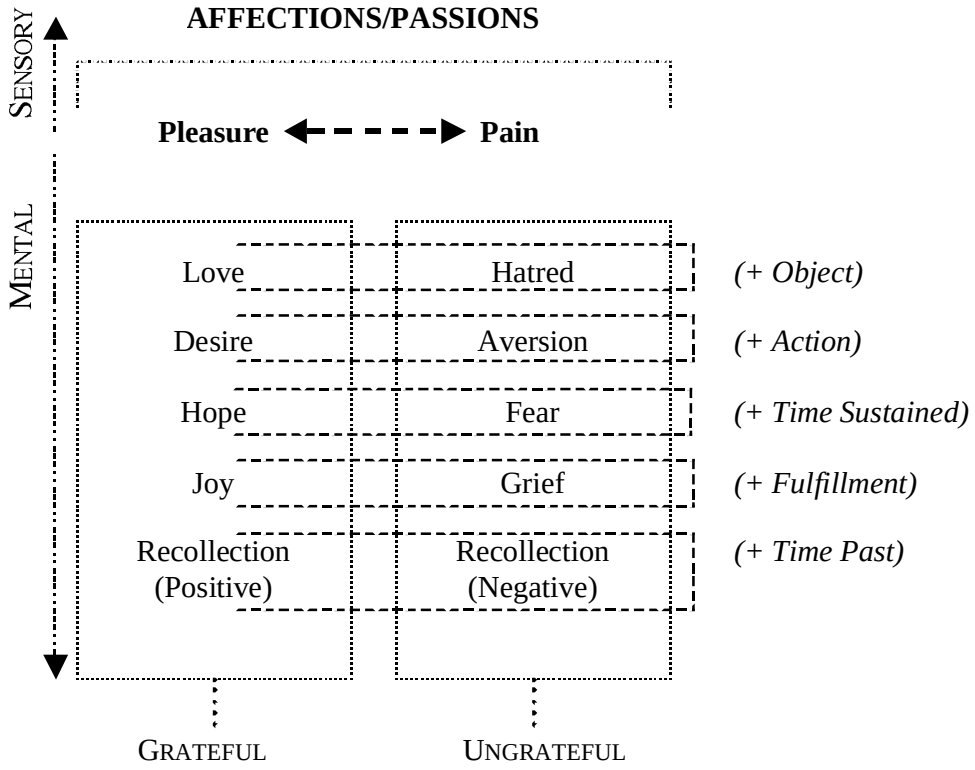


Figure 3.6: Hartley's System of Passions or Affections



3.1.3 Reid

Common sense philosophy emerged, in Reid's work, as the primary interlocutor for associationism. While Hume had alluded to the role of common sense in his *Treatise*, it was Reid who made it a primary principle of inquiry into the mind. The conceptual system of mind developed in this endeavor demonstrates again several common features in the space it maps out, but also displays a basis of natural faculties rather than associative processes. Reid's system as a whole is more complex to trace, since its exposition is not effectively contained in a single work, like that of Hume or Hartley. Instead, his treatment of mental powers (as he would call them) emerged in three installments – the earlier *Inquiry* [1764] and the two later sets of *Essays* on *Intellectual* [1785] and *Active* [1788] powers. Reid's work, though, like Hume's, exhibits a fairly high degree of continuity between elements. What follows will be a synthesis of the concepts employed in those works, which suggest only minor variations in terminology in an otherwise stable conceptual system.

The most basic unit in Reid's system is the self (see Figure 3.7). This is conceived of as the indivisible locus of a soul-mind-sentience that is possessed of a set of definable powers. Reid distinguishes these powers on a familiar set of axes of simple-complex, natural-artificial, and active-intellectual. There is a strong suggestion that these axes are oriented toward a common dimension, so that the simple, the natural, and the active (and their opposite numbers) would be correlated to one another. They are, however, apparently considered irreducible. The different human powers are arrayed in different locations along these spectra in contraposed pairs. Sensation and perception are distinguished according to the simplicity of the former and complexity of the latter. In language, expression is attributed to the natural side while signification is attributed to the artificial. The most sweeping distinction is between a set of intellectual powers (usually designated faculties) and another of active ones (usually referred to as capacities). In the former class, the faculty of reason or understanding is accompanied by memory, conception, taste (in an aesthetic sense), perception, and consciousness. In the latter, we have the will, passion, affection, appetite, instinct, and habit. These various powers of man, Reid's solution to the problems he identified in the associationist program of explanation, produce the entire range of human activities. Most conspicuously, on the

intellectual side, they generate human knowledge, which Reid variously identifies with both judgment and belief.[27]

The central role of common sense in Reid's system becomes evident by examining the qualitative assessments he makes of the value of different powers for mankind overall. These indicate a general commitment to simplicity over complexity, the natural over the artificial, and the active over the intellectual.[28] As a further case in point, Reid's depiction of the growth of human knowledge uses the analogy of a tree, with perception forming the root system, common understanding the trunk, and the sciences the diverse branches. This tree of knowledge is sustained by common sense, as the stout connection by which the nourishment of the external world reaches the isolated and delicate limbs of more remote reasoning.

In addition to the overall split between sensation and perception, five individual sensory modes – distinguished by organ – are also ranked on the axis of simplicity versus complexity (see Figure 3.8).[29] This classical list of sense types places smell at the simple end of the scale, followed in increasing complexity by taste (as physical gustation, not aesthetic acumen), hearing, touch, and sight. A sixth, moral, sense – the ability to discern good from evil – is then appended to this inventory, with its position in terms of complexity being unclear relative to the other modes. This new sixth member shares with the others the essential character of being directly felt.

Up to this point, then, Reid's system appears as a stark alternative to the associationist mental concept set, but remains defined on the same set of underlying dimensions. Reid's innovation, in establishing the common sense tradition, was to postulate – instead of a process of mental concatenation of stimuli – a rich set of filters (the faculties and capacities) that provide us with the multivalent abilities that are evident

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[27] The later Reid clarifies this apparent equation, subdividing the actuation of intellectual powers more finely, as we will see in the continuing discussion.

[28] The case is more complicated than this, since Reid attempts an even-handed treatment of the entire range of human experience. However, he does uniformly recommend an attention to the humble over the exalted and the common over the abstract. I will take up this problem more in chapter 4.

[29] Reid's introduction of this subject shares with Hartley an explicit adherence to the five modes of sensation identified by Aristotle (*De Sensu*). However, as we will see shortly, he begins a process of broadening the scope of the sensations that will continue in this tradition.

in all humans. Broadly speaking, the associationists tried to reduce the many to one and argue back to an explanation of the range of experience, while Reid was content to retain an initial multiplicity and proceed by elimination when possible to reach a parsimonious explanation. This considered embrace of the complexity of human lived experience was tempered by his prior commitment to a common sense perspective – Reid aspired to treat the complex with maximal (but not extreme) simplicity and straightforwardness, in contrast to his predecessors, who he saw as falling prey to undue abstraction of the problem at hand.

His acceptance of a complex mental world, and the attendant complexity of its analysis, led him also to the postulation of a multitude of first principles basic to the study of mind (see Figure 3.9). Considerations of space here prevent elaboration of the various elements of this list, or the extended arguments that Reid sets out to justify them. However, as Figure 3.9 shows, they are divided into necessary and contingent categories – the former being (more or less) matters of principle, and the latter matters of fact. In the former class, we find fundamental principles of language (grammar) and argumentation (logic), as well as the postulation of a world constituted by morality, predictability, and divine intention.[30] To deny these, Reid argued, flew in the face of what is self-evident to us all. If this set were rationally indisputable, the other principles he proposed were instead dependent on the details of the world in which we happen to find ourselves. For example, we find – as a matter of course, in the acquisition of experience – that those things of which we are conscious exist. Similarly, we find that humans are the sort of creatures that, like ourselves, exhibit activity, intelligence, and predictability. These are all, as he attempted to show, results of the best evidence available – in Reid's view, this was all that one could expect from the principles of an empirical science. Moreover, he says, they fulfill the criterion that Hume would have acknowledged as the deciding factor in human nature: we are compelled to believe them. While empirical evidence is necessary as the ground of belief, Reid – echoing Hume –

[30] God, while a closely included member of Reid's set of primary concepts, actually plays a fairly peripheral role in the system. For Reid, unlike Hartley, God was not an active agent in human affairs, but rather a fundamental precondition for human affairs. This makes Reid's philosophy more easily secularized than Hartley's.

maintains that "[b]elief in general is the main spring in the life of a man." [Reid, *EIP*, p.328]

The set of first principles that Reid lays out in this discussion prepare the ground for his considered treatment of our various powers. These he defends, against the associationist charge of his multiplying phenomena beyond necessity, by suggesting that the acceptance of one faculty is equivalent to accepting them all, since they all derive "from the same shop." That is, given the assumption – by Hume and Hartley, among others – of a power of agency and consciousness, we are in the position of accepting other similar capacities. Reid bolsters this position by suggesting (like Hartley) a process of compounding that can explain the various functions that human beings exercise (see Figure 3.10). Here, Reid differentiates between the powers as potentialities, and their exercise as productive outcome. His intention is to show the individual necessity of the various powers he proposes, acting either in isolation or in concert. His listing here focuses most directly on the intellectual powers (it is derived from his *Essays* on that subject), but does include volition as the fundamental active power. Most basically, on the intellectual side, he identifies the power of conception (or imagination). By being exercised, this mental potential source generates apprehension. Similarly, a combination of conception with a sensory capacity generates sensation; sensation directed to an object generates perception; perception plus reason yield common understanding and, more abstractedly, science. The primary products – those Reid emphasizes – are belief, coming from a combination of sensation, remembrance, and evidence; and common sense, which appears as a sort of interface between perception and reason.[31] In this entire discussion, reason is a category in tension, as it tends toward both the artificial and the complex while also being a necessary element in common sense. Knowledge correlates more strongly with belief than reason for Reid, as it does for Hume also.

[31] Common sense is a multivalent term for Reid. However, it can be shorthanded – without too much damage – as the sort of capacity that is decisive for our beliefs in regarding the direct intuitive evidence of our perceptions. It is not a faculty in its own right, but rather a mode of interaction among several faculties, in which perception is examined by common understanding (*simple* understanding) with an eye toward belief (or, equally, disbelief).

The various active powers – appetite, emotion, passion, affection, instinct, and habit – are the principles of human action, but are not rational ones. Reid's discussion of these features reveals more conceptual relationship with his contemporaries. He, like Hume but versus Hartley, embraces the power – and ultimate benefit and utility – of such capacities. In a terminological innovation, Reid makes a distinction between passions and emotions, on the basis that the former have active force while the latter do not.[32] This move toward a philosophy of action (speaking *in terms of* action) is congruent with his other identifications with common sense, belief, and expression.[33]

Reid's philosophy also, and congruently, moves decisively from the mental to the physical regime. In a skeptical gesture, Reid explicitly rejected Hartley's physiology as too mechanistically speculative, but – like Hartley and versus Hume – devoted considerable attention, the entirety of his first major work, to the details of sensation (and perception).[34] Overall, his introduction of a new explanatory frame – introducing faculties; accenting action, practice, and commonsensical direct realism – called the accepted dimensions of mental activity into question.

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[32] The language of 'passions' versus 'emotions' in this period is a topic of great interest. Hume relied almost exclusively on the former term, although he mentions 'emotion' in his *Dissertation on the Passions* [pp.162-163], in a sense apparently intended to equate to what he calls 'direct passions' elsewhere. During the eighteenth century, however, the latter term began to gain increasing currency. Part of this may be explicable by means of distinctions such as that made by Reid. However, the popular etymology of the two may be equally revealing: Referring to the Oxford English Dictionary, we find that 'passion' is the older term in English usage, having the literal sense of sustaining a pain. It also carries with it a strong theological connotation related to Christ's suffering on the cross. 'Emotion', by contrast, originally related to physical motion, and was only later transferred to the mental regime. It has only a secular meaning. The simultaneity of the linguistic shifts from 'soul' to 'mind' (on which, see Reed, [1997]) and 'passion' to 'emotion' is highly suggestive of a general process of purging theology from science during the period. Furthermore, the disappearance of 'passion' as a formal mental descriptor in the nineteenth century coincides with the demise of the 'felicific calculus' of the previous period; while Hume, Hartley, and Reid all agree that active states of mind have either a positive (pleasurable) or negative (painful) valence, this position is superseded, in the work of Brown, Mill, and Bain, by the notion that many induced states of mind are of neither sort, but are rather neutral. The shift from passion to emotion deserves much further study to sort out these rather complex connections.

[33] Intuitive linguistic expression (gesture, tone, *etc.*) appears as a kind of universal natural language in Reid's work.

[34] On Reid's rejection of Hartley's mechanism, see Grave [1960, p.18]

Figure 3.7: Reid's Plan of the Human Powers

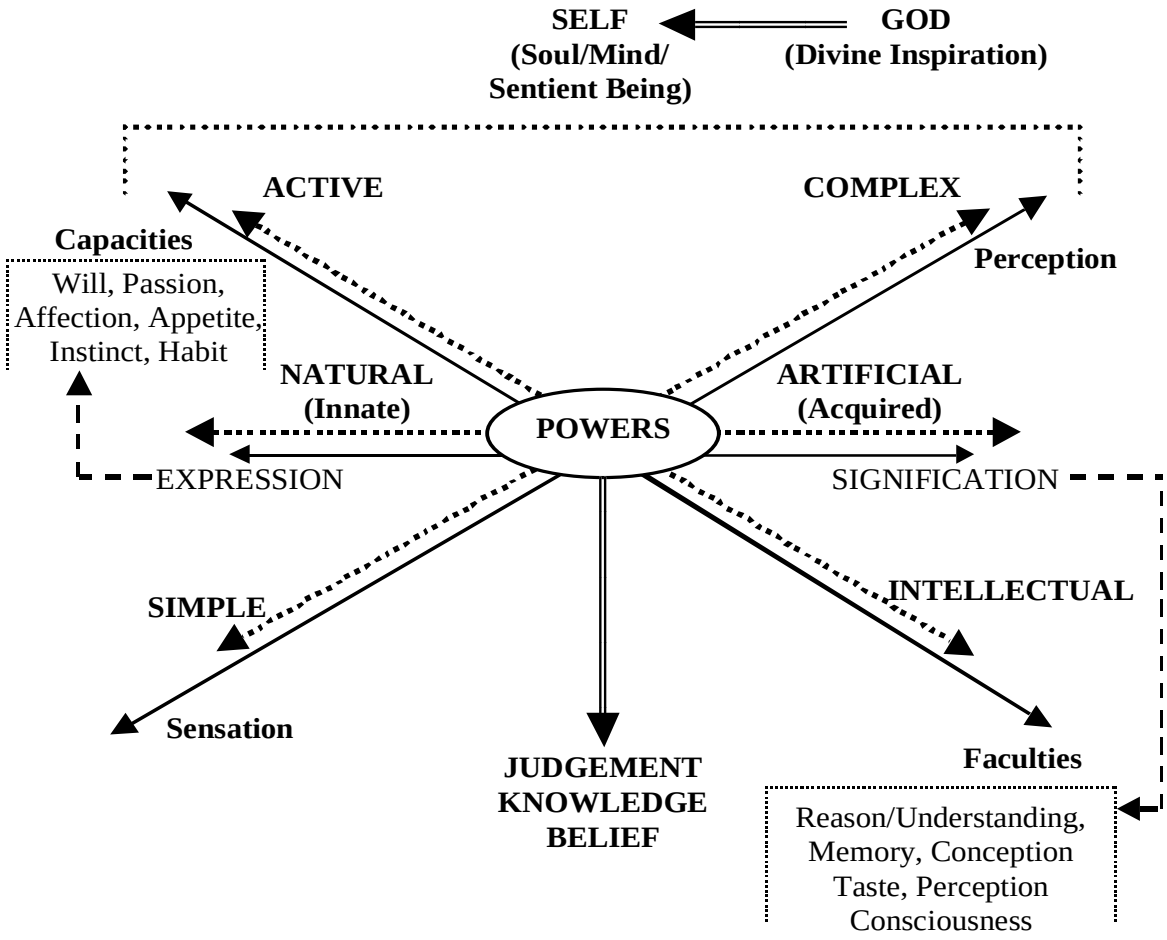


Figure 3.8: Reid's Sensory Hierarchy in the *Inquiry*

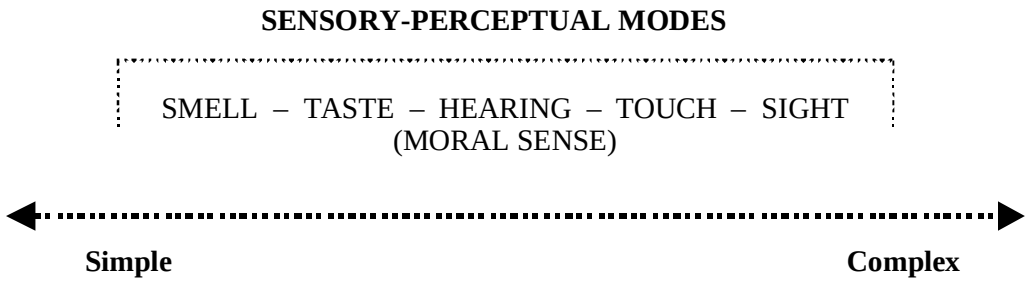


Figure 3.9: Summary of First Principles Cited by Reid in *EIP*

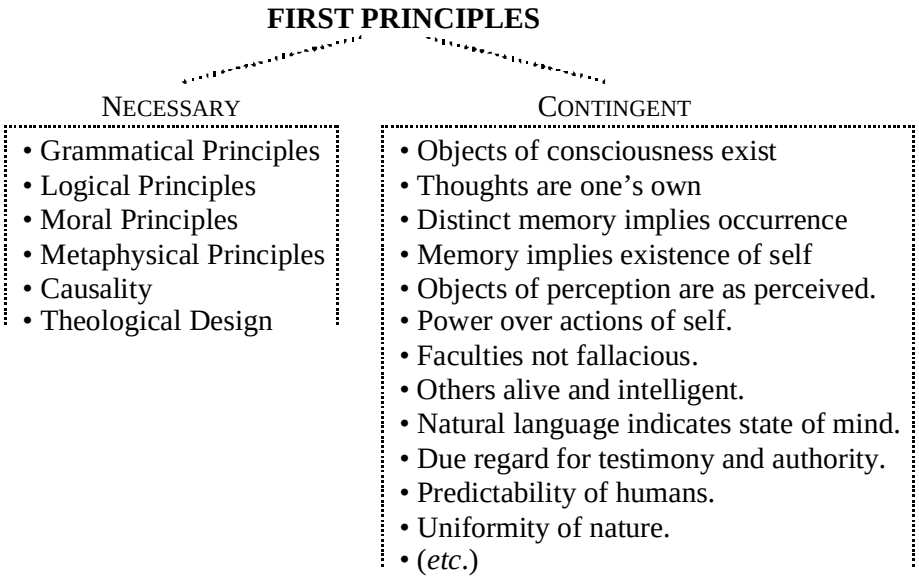
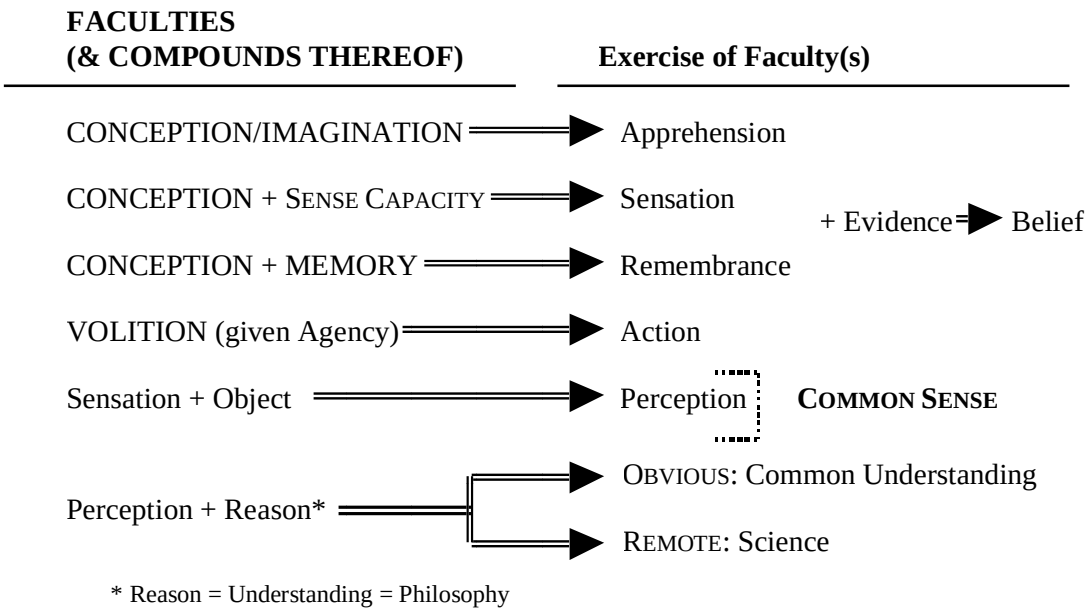


Figure 3.10: Reid's Plan of Faculties, Their Compounds, and Their Products



3.1.4 Brown

Reid's work was importantly promulgated in the later eighteenth century by Dugald Stewart and a circle of Reid's other colleagues. A fuller examination of the study of the mind in Britain would linger on this next period, which also saw the associationist program extended by Joseph Priestley, Erasmus Darwin, Adam Smith, and others; as well as the introduction of significant elements of German and French inquiry into the British intellectual milieu. Here, I will jump to the work of Thomas Brown – two intellectual generations after the contributions of Hume, Hartley, and Reid – and consider the conceptual reorientations that are evident in comparing his system to those of his predecessors. This will help assess the common wisdom that Brown is primarily significant as a synthesist of Hume and Reid.

Brown's thought was summarized in the posthumously published *Sketch of a System of the Human Mind*. However, as Brown was unable to complete this work

before his early death, it is necessary to refer to his more extensive *Lectures* for a full examination of his system. The proposed outline of the *Sketch* follows the plan of the *Lectures* exactly, so an extrapolation from one to the other is possible.

In consulting these works, we find that Brown has significantly altered the terms of discussion, relative to the eighteenth century tradition (see Figure 3.11). Like Reid, he effectively assumes a present self, who is now shown as embedded in a temporal framework of consciousness. The self is characterized by a set of affections, arranged in four-fold order. Of these four, one pair – sensations and appetites – are attributed to external phenomena; the other pair – intellectual states and emotions – are internal in origin. Thus far, this would appear to be an arrangement compatible with Reid's catalog of faculties under a different name. However, they are not uniformly referred to the simple-complex, active-intellectual, natural-artificial axes that were common in earlier work. Classing them together under the rubric of affections further emphasizes their commonality in this regard. Even more importantly, they are conceived as states rather than powers. The states of sensation include those not only the classic five senses, but also a class of muscular feelings that differ in having no distinct organ. Within the organic senses, we see the reappearance of a simple-complex division that ranks smell, taste and hearing on the lower end of the scale and touch and sight on the higher end. This elevation of touch, congruent with the inclusion of muscular feeling and the denial of an overall active-intellectual distinction, points to a shift in emphasis in the early nineteenth century. What we see here, I think, is the beginning of a turn from activity (its origin) as a problem to a focus on action (its description and control, in practice). Brown does not, however, take the Hartleyan route of retreating to physiology for a basis. Instead, as we will see, he projects the problem forward toward ethical implications; a further discussion of this topic will proceed after we complete a survey of Brown's catalog of affections.

Brown identifies the internal affective states as either intellectual or emotional. The intellectual states he accepts, however, are not like Reid's faculties. While he considers these proposed faculties in turn, beginning with consciousness, he ultimately finds them all reducible to principles of association – or, as he would prefer, suggestion. Suggestion, the process by which the train of thought proceeds, can be either simple or

relative.[35] Simple suggestion is our source of knowledge of resemblances and contrasts, and thus plays essentially the same role as Hume's association of impressions. Relative suggestion, on the other hand, produces knowledge of (degrees of) nearness and causality, serving as did Hume's associations of ideas. Brown, however, does not intimate any such distinction between impressions and ideas. The two categories of suggestion differ fundamentally only in whether an immediate mental operation or a successive train of thought is involved. Note, too, that Brown's use of associative-suggestive process is circumscribed – being attributed only to one of the four departments of affections.

Adding to the temporal emphasis, Brown's system of the emotions is ordered according to their relationships to the lived experience of time (see Figure 3.12). While Hume's and Hartley's analyses relied exclusively on the felicific calculus and Reid provided no fundamental listing of emotions at all, Brown advertises the emotions as either immediate, retrospective or prospective. He does not attempt an exhaustive listing within any of these categories; in fact, he explicitly expects the emotional palette to change with exposure to new circumstance. Instead, he 'botanizes' the emotions, listing more than twenty identifiable variants over the set of temporal classes. Significant elements in the substructure of this system include the presence or absence of a moral orientation in the immediate emotions, and a partial categorization in terms of the felicific calculus. Thus, our feelings of cheerfulness and beauty – for example – are contrasted to those of virtue or sympathy (as amoral versus moral). Virtue is further paired with vice (as an emotional pleasure versus a pain). However, and most centrally in the amoral emotions, we see the establishment of a new group not entirely susceptible to a bimodal division into positive and negative. While cheerfulness and melancholy, or wonder and disgust, might be identified as pleasurable on the one hand and painful on the other, they are not contraries of one another, but are rather each *sui generis*.

From this basic conceptualization of mental activity, Brown proceeded to the regime of practice. He divided his project, the philosophy of mind, into three

[35] Simplicity reappears again here, but it is contraposed to relativity rather than complexity. This is not exactly the same distinction earlier made in the domain of sensation. The simple suggestions are those that are automatic and direct, while the relative are those requiring comparisons in space and time.

departments – those of physiology, ethics, and political economy (see Figure 3.13).[36] Physiology, for Brown, consisted in the matter just discussed, the operation of the affections as a whole (rather than merely the study of bodily structure, which he does not dwell on deeply).[37] Ethics, by contrast, was the examination of human duty on the basis of the facts of the prior physiology. Brown pursues this subject by again using a botanizing – or natural historical – approach. Our duties are identified as relating to ourselves, to others, and to God. Brown leaves this last obligation as a singular category, but the other two are related to various disparate objects.[38] Our duty to ourselves is essentially one of self-realization or improvement (in Brown's term, 'cultivation') – in intellectual, moral, and religious terms. To others we owe both general and particular obligations. In a list reminiscent of Hume's objects of the indirect passions, the important categories of these 'others' Brown considers are friends, family, business, and and nation.[39] The various practical implications of this set of obligations make up the second moiety of Brown's discussion in the *Sketch* and the *Lectures*.[40] This move toward more attention to social applications of the study of mind follows up on the eighteenth century platforms for a science of man, and – at the same time – represents another aspect of Brown's reorientation of the playing field. While his work is rooted in the examples of Hume and Reid, Brown conceives of the mind according to a different set of priorities and is able to elaborate a different program as a result.

[36] Brown's conception of philosophy appears as a subject again in chapter 4.
[37] While Brown, like Hartley, was a medical practitioner, this did not lead him into an attempt to 'physiologize' mental function through postulation of material mechanism.
[38] Note too the increasingly peripheral position of the deity in the systems of Hartley, Reid, and now Brown – all religious men. While each clearly advocates a Christian perspective, this becomes a more flexible, and more vestigial, element over time.
[39] This listing need not be considered comprehensive. Brown does not indicate that it is.
[40] As the next section will detail, political economy was not included matter in either of these works.

Figure 3.11: The Human Affections in Brown's System

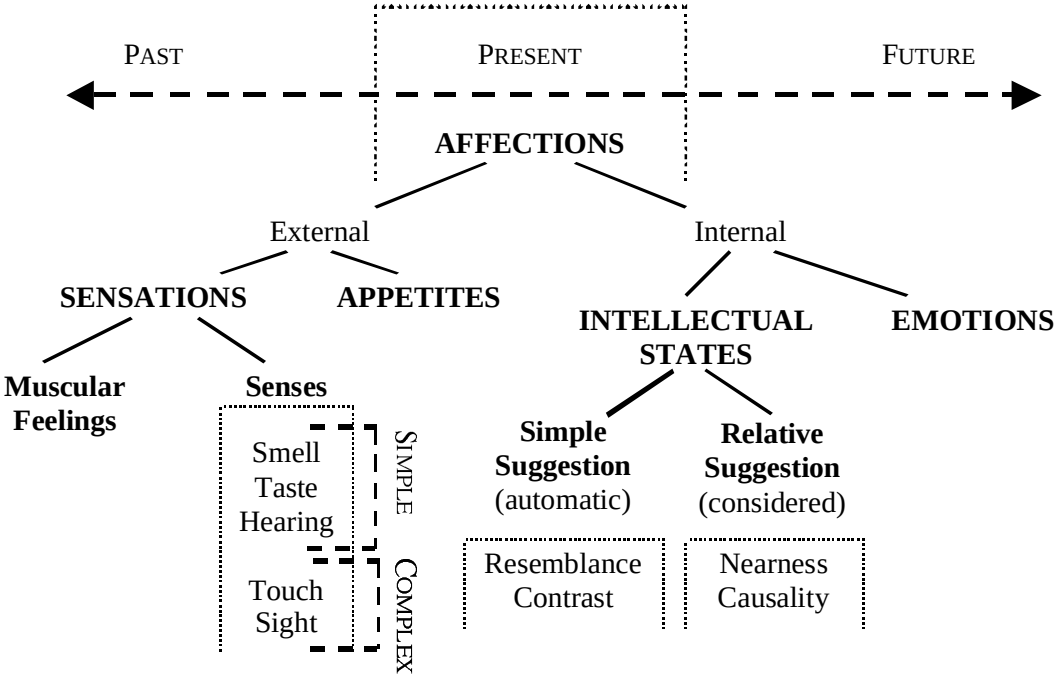


Figure 3.12: Brown's Temporal Organization of the Emotions

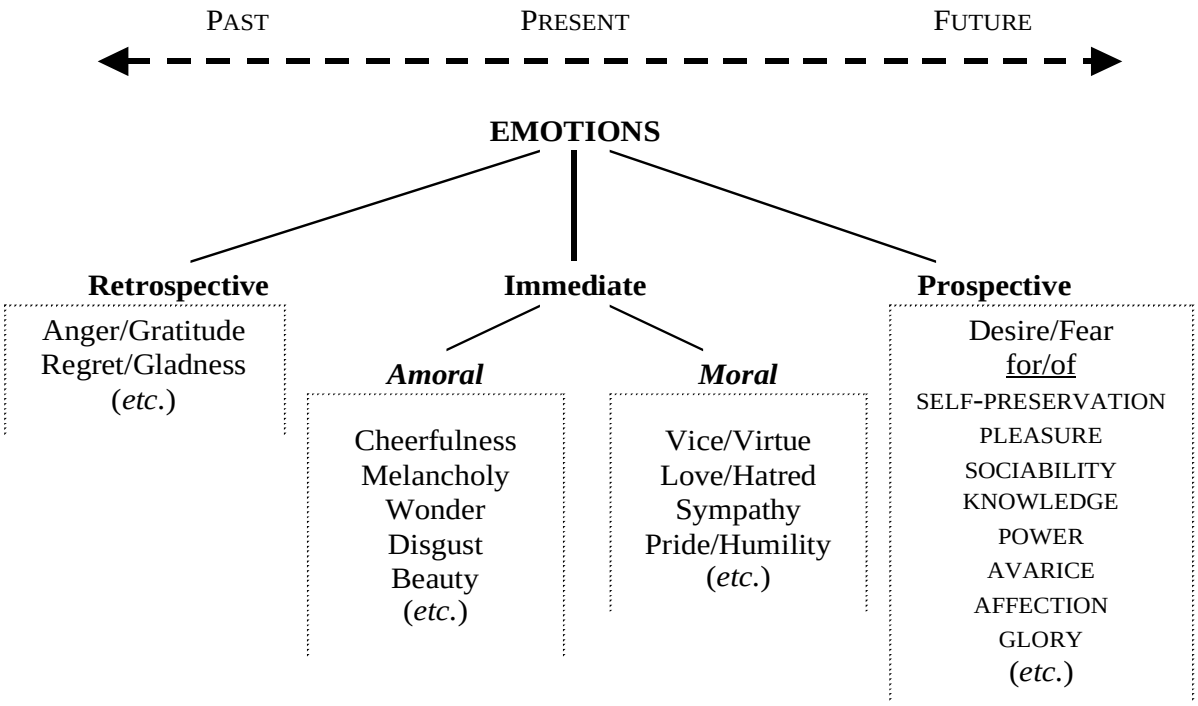
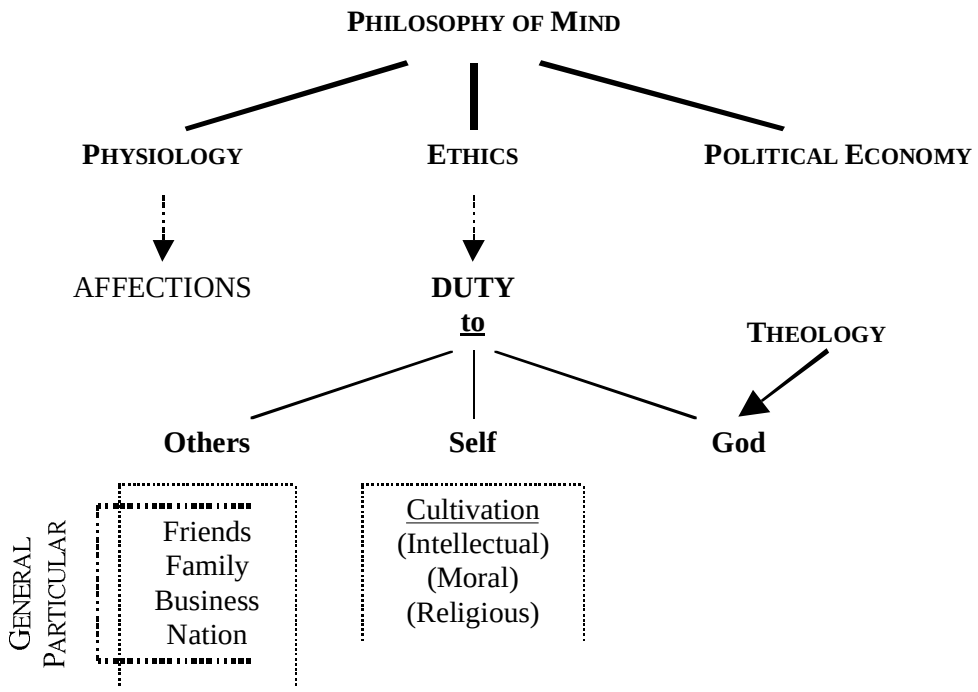


Figure 3.13: Brown's Prospectus of the Philosophy of Mind



3.1.5 Mill

Brown's contemporary, James Mill, also a student of Dugald Stewart at the University of Edinburgh, explicitly returned to the example of Hartley as inspiration for his *Analysis of the Phenomena of the Human Mind*. Here, Mill establishes another strict associationist system in the new terms of the early nineteenth century.

The founding element of Mill's conceptual structure is sensation, defined according to a set of four independent dimensions (see Figure 3.14). Any sensation can be characterized according to its degrees of temporality (past-present-future), pleasure-pain, immediacy-remoteness, and certainty-uncertainty. Mill sometimes refers to a fifth division according to the necessary or accidental character of the sensation, particularly in regard to remote sensations. Each of these valences is a constitutive quality of sensation, and the differences among classes of sensation are based on them. One is tempted to regard this as a sort of chemistry of human feelings. Mill does not, however, attempt a comprehensive survey of these dimensions. For example, emotions (one class

of sensations, for Mill) are not systematically placed within the four-dimensional conceptual space laid out by Mill; not all positions in this space are given names, but the existence of emotions corresponding to these positions is implied by his development.[41]

An additional functional filtering of sensations into either feelings of receptivity or feelings of activity provides Mill with his framework for ordering the sensations explicitly. Thus, effectively, the Reidian dichotomy of intellectual versus active powers is retained by Mill, who notes that active ones are simply those that incite a response while intellectual ones do not. [Mill, 1868, I, p.181] The three subgroups he identifies in this spectrum are further distinguished according to their having (or not) organs, objects, and feelings in their makeup. That is, on the receptive side, we can establish a connection of each sensation with a specific organ, a specific object (a localized stimulus), and a specific characteristic feeling. Among the active feelings, those sensations of disorganization (indicative of general failure in the human system – pleasures and pains, *etc*.) have only characteristic feelings; the sensations of the alimentary canal and the muscles have both characteristic objects and feelings, but not diversified organs. Thus, we see a physiological template placed over the existing passive-active scale.

Mill adopts a rigorous copy theory of ideas, in which all ideas have their origins in prior corresponding sensations. Ideas, for Mill, are only "that which exists [in the mind] after the object of sense has ceased to be present." [Mill, 1828, v.1, pp.51-52] All complexity in mental phenomena is built up from a compounding of more simple conceptions or ideas. Like Hartley, and against Hume and Brown, Mill acknowledges only one genuine principle of association – that of contiguity, in synchronous (spatial) and successive (temporal) modes. Repeated associations of evidence, as in Hume, generate a state of belief, from which stem our capacities for judgment and memory. Successive association, in particular, is at the root of our attributions of causality.

Following Hartley and Reid, Mill assigns a great deal of significance to the understanding of language and its operation in generating knowledge. He traces the

[41] At another level, Mill's treatment of emotions suggests that he views them as an epiphenomenon, merely a set of names associated with particular states of feeling in particular circumstances. The term 'emotion' is always subjugated to 'sensation' in Mill's development.

development of ideas directly to the problem of naming. In this endeavor, he provides three parallel treatments of language. First, he devotes attention to formal linguistic structure (elements of grammar, or word types). Next, he employs the notion that names are codified ideas - and thus only markers – to deflate Reid's assignment of natural faculties. Consciousness, memory, belief, *etc.* are all merely names for states or processes of mind that we have come to distinguish, and *not* features of the mental structure.[42] Third and last, Mill similarly identifies a set of associative modes – seven kinds of names that represent ways of combining simple ideas into more complex ones. These are: (1) names of names; (2) relative terms; (3) numbers; (4) privative terms; (5) time; (6) motion; and (7) identity. These map fairly well onto the philosophical relations identified by Hume, although Mill speaks in terms of resulting relational terms and Hume concentrates on relational processes. The theory of language thus provides both a conceptual space for considering ideas and well as an argumentative tool to tag different proposed mental features as actual or nominal.

Mill deals with the active aspects of human life in terms of motives, dispositions, and affections (see Figure 3.17). This conception is again rooted in a developmental temporal sequence. Our actions (both bodily and mental) and the causes of pleasure and pain become associated with one another by conjunction over time. These associations, codified in memory (that is to say, repeated until ingrained – memory is not a faculty here), become recognized as motives. The strength of these motives is partially a result of our susceptibility to them, according to certain innate differential individual dispositions. We then proceed to act further on the strength of our motives. At the same time as our associations of action and cause generate motive, the ideas of the causes of our pleasures and pains themselves can become ingrained as affections. Mill's special use of affection here is in sharp contrast to Brown's; while Brown employed it as a term overarching all the feelings, Mill restricts it to that class of ideas that name our established predilections.

Mill's framework is as thoroughly secular (if not more so) and devoid of an appeal to natural duty as is Hume's. God appears in no significant way in his work,

[42] This is essentially the same conclusion Brown came to, but framed in an explicitly linguistic context that Brown's was not.

despite his personal clerical background. The moral sense, for Mill, is simply a disposition or a mental status generated by certain trains of associative processes. While our feelings of pleasure and pain direct our activity, they do not in so doing directly establish a system of right and wrong. Thus, while Mill recognizes essentially the same set of affective objects as Brown does – family, friends, nation, business, *etc*. – he speaks of them descriptively rather than prescriptively.

Figure 3.14: Dimensionality of the Sensations in Mill's *Analysis*

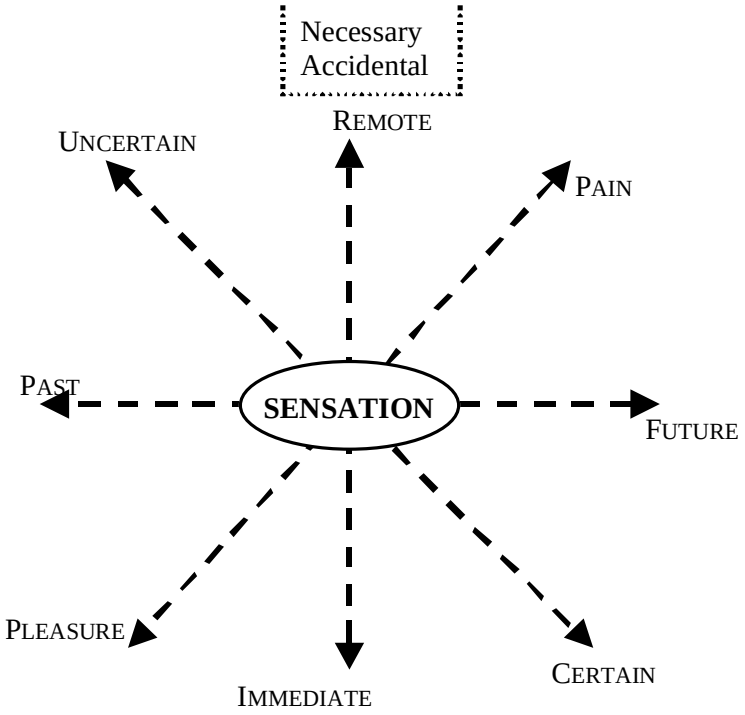


Figure 3.15: Mill's Classification of Sensations and Ideas

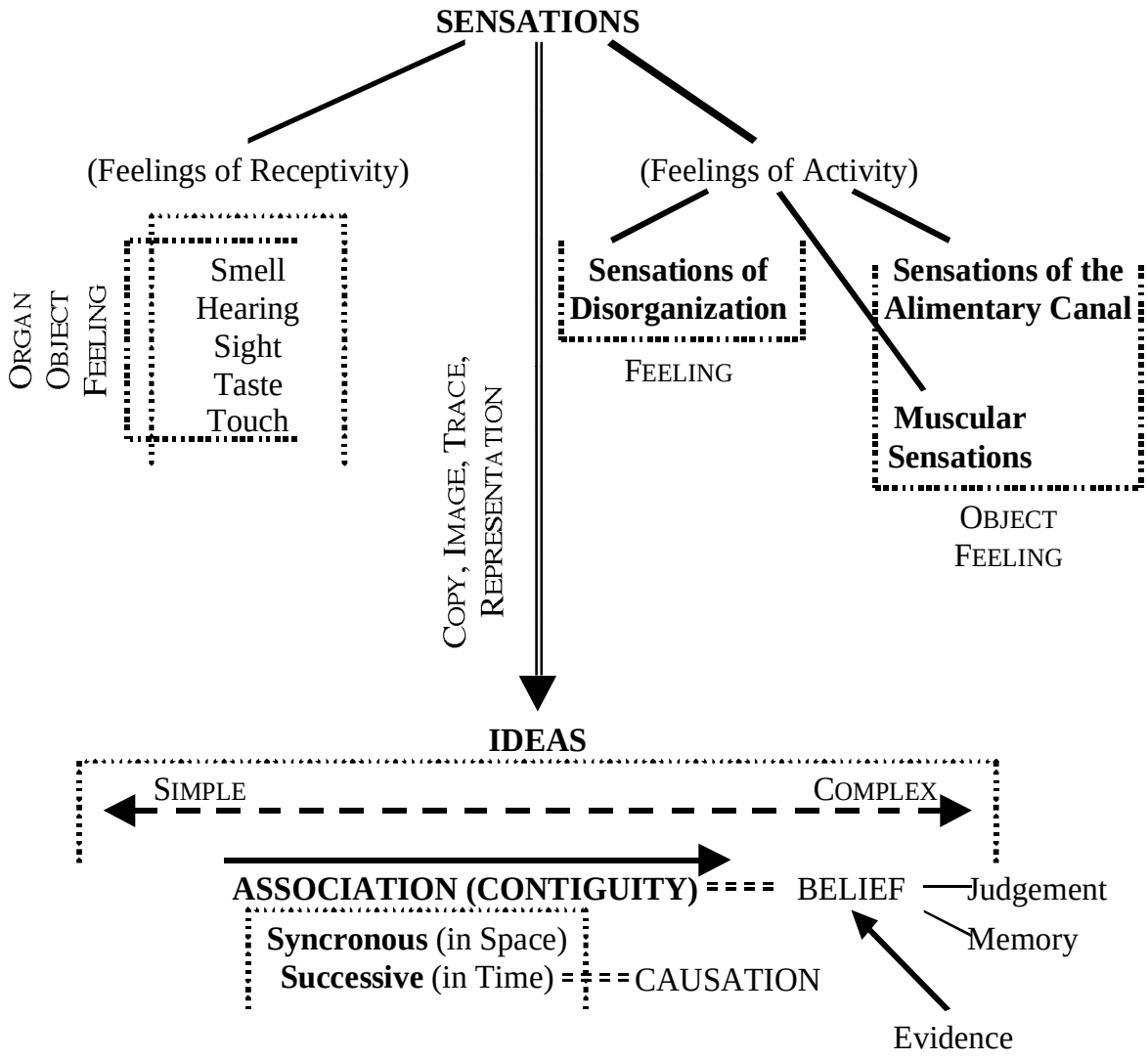


Figure 3.16: Mill's Mapping of the Expression of Ideas in Language

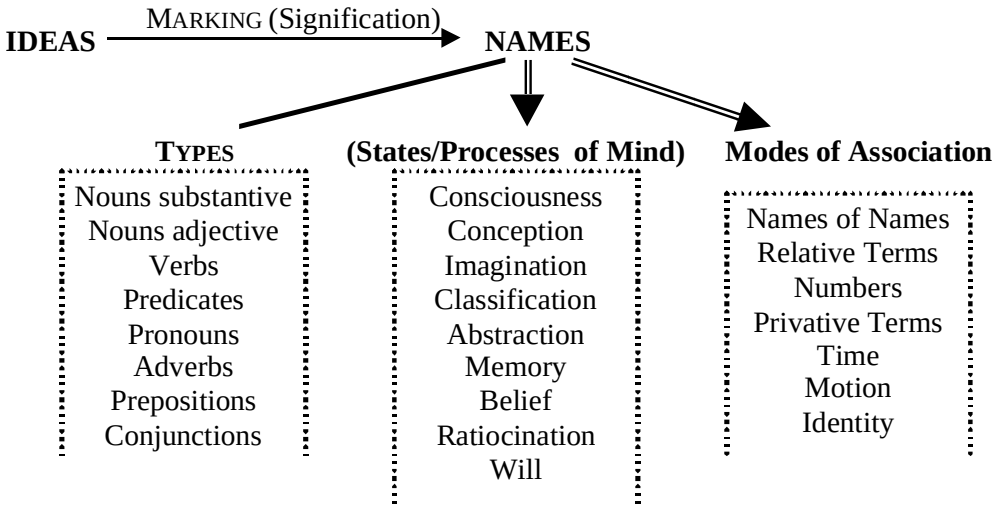
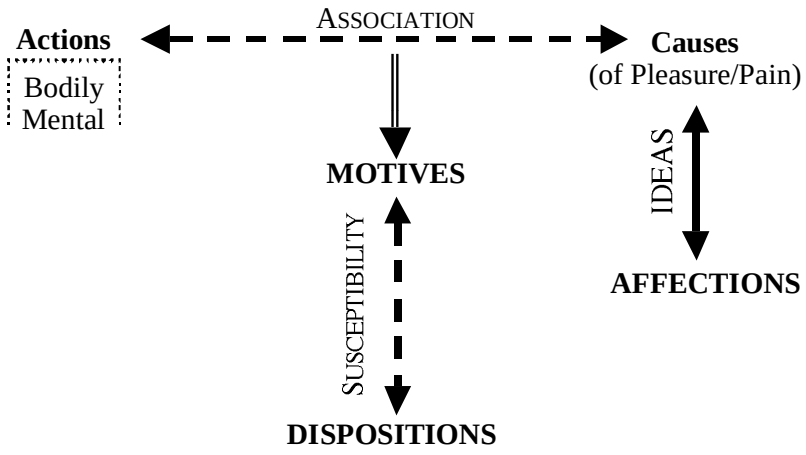


Figure 3.17: Motives, Dispositions, and Affections in Mill's *Analysis*



3.1.6 Hamilton

Effectively, Hamilton leaves Reid's conceptual system wholly intact. His *Lectures* promulgate the Reidian view in full opposition to the accommodations made by Thomas Brown to the associationist tradition. While his justifications and arguments move in the direction of German idealism – and particularly seek to harmonize Reid with Kant – the concepts he uses and the connections he proposes between them map cleanly onto those of Reid with only two notable exceptions. First, and more substantively, Hamilton (with Brown) rejects the identification of Consciousness as a separate faculty, considering it instead to be merely the state of operation of the sentient mind.

Second, his denomination of various terms differs from that of Reid, although the intended significance remains apparently unchanged. Such gestures reflect Hamilton's characteristic scholarly and systematic bent, as he tries to establish a coherent ideal terminological system for Reid's existing system. For example, he proposes that Reid's "active" powers be called instead "Conative" (*Lat.*, pertaining to exertion or endeavor). Similarly, he calls "understanding" the "Elaborative faculty", and "memory" the "Conservative faculty." The study of each faculty is given its own designation, with the examination of cognition being "Gnoseologia," that of understanding or logic being "Dianoetic," and that of memory being "Mnemonic." Of course, terminological changes of this sort can be far from irrelevant. Some – such as the shift from 'soul' to 'mind' in early psychological discourse, and that from 'passion' to 'emotion' in the same quarters – can reflect important broader conceptual trends. However, there is little evidence that Hamilton's neologisms (or paleologisms) are anything but a personal idiosyncrasy in his presentation, reflecting not a social trend but rather only the systematic urges of a singular scholar. Thus, it seems safe to discount these modifications as largely cosmetic here. If Hamilton diverges from the Reidian tradition in significant ways, it is in his defense and substantiation of the system rather than in its structure.

One other seeming deviation from Reid's development in Hamilton's *Lectures* is apparently deceptive. While Reid devoted the bulk of his *Inquiry* to the details of human sensation, this subject is missing from Hamilton. However, Hamilton's editors note that they have elected to omit this matter from the published text as Hamilton largely extracted it from secondary texts; since it was not original, it was considered superfluous

to the published *Lectures*. [Hamilton, 1877, p.373 n.] This omission will be taken up again in my consideration of textual and iconic structures later in this chapter.

3.1.7 Bain

Last, Bain's system exhibits inheritance traits from both Brown and Mill. It is here that we observe the apotheosis of the associationist school, within a new framework that synthesizes features we have already seen current in the eighteenth and earlier nineteenth centuries. Bain begins with a conscious self – a mind – constituted by feeling, acting, and thinking as an inseparable ensemble. He thus echoes Brown's fundamental unity of human capacities, but without introducing that author's language of affections. The departments of mental phenomena are treated as a set of human capacities, understood – as in Brown and Mill – as fictive. The mental attribute of feeling gives rise to our conscious awareness, our emotions, and our sensations. Activity both results from, and forms the basis of, volition.[43] Thinking is manifested in the capacity of intelligence. The mental system as a whole reflects a complex and dynamic interactive relation among all these features.

Before examining the details of sensation, intelligence, emotion, and volition in turn, Bain introduces the mind as housed in a physiological system. The brain and nervous system are the first explanatory topics to which Bain turns in *The Senses and the Intellect.* These features of human physiology are treated as primary because they are the organs of the mind. [Bain, 1855, p.10] Thus, the entirety of our mental features can be treated as epiphenomenal with respect to the brain and its nervous connections. Body and mind are nonetheless firmly distinct, if inseparable, for Bain. He quotes the Edinburgh professor, Alexander Fraser, on the opinion that "Our consciousness in this life is an

[43] Bain argues for a developmental system in which spontaneous movement generates volition which then reciprocally serves a governor of our later actions. This is one aspect of the importance of the sensori-motor complex in Bain's system. Movement is, for Bain, a more fundamental human function than sensation; since it is independent of external stimuli and – at least in part – spontaneous, it is *inseparably* constitutive of the human mind. Even if sensory input ultimately overrides it in the development of higher functions, Bain contends that the human condition begins with movement.

embodied consciousness." [Fraser in Bain, 1859, p.477 n.] However, he is also clear about retaining a conceptual space for the purely mental phenomena of introspection.

Among these mental phenomena, he attends first to sensation, which class he expands drastically from the models of his predecessors. Sensation includes, for Bain, not just the senses of the special organs, but also an array of muscular feelings, appetites, and instincts (see again Figure 3.18). This unusually inclusive grouping – Bain, altogether, proposes approximately thirty distinct sensory modes - provides a rich pool of possible distinct stimuli to the mind. The special organic senses exhibit differing degrees of connection to the intellect, beginning with the various sensations of organic life and proceeding upward to sight. The appetites, instead, are tied to our will and volition; and the muscular and instinctual sensations have various connections to the emotions, will, and consciousness.

Bain's treatment of the intellect also establishes a direct connection between this rational capacity and the phenomena of movement, sensation, appetite, and instinct (see Figure 3.19). A variety of characteristic capacities – including memory, reason, abstraction, and judgment – are identifiable in the intellectual domain, but he reduces these all to their roots in associations of resemblance and contiguity (the latter incorporating causation). Bain thus follows Hume most directly in his basic understanding of what association entails. However, his development does also postulate a second order of processes whose identification is original to him.

The compound and constructive associations that Bain superadds to the associative principles inherited from his predecessors are both, in some sense, dependent on these earlier principles. The compound mode of association involves no principles not already involved in contiguity and similarity, but only the circumstance of a plural association. Thus, Bain's treatment of this as a distinct associative mode only formalizes a principle common to associationist doctrine since at least Hartley. Constructive association is a more novel contribution. These are his attempt to explain the function of imagination in the human experience. The creation of novel ideas by the mind might seem anomalous on a strictly associationist basis, thus lending fuel to the opposition posed by faculty psychology. Bain explains this phenomenon as resulting from associations forming originally in the mind; in essence, he maintains that our minds are

capable of creating new, emergent ideas. Again, this mode operates by underlying principles of contiguity and similarity, but in such a way that these can be perceptually transparent even to the individual in whom they form.[44]

Bain's consideration of mental systems follows each of our basic capacities to its practical applications in society. For the intellect, this first entails an explanation of how processes of thought – in relative isolation from the other mental departments – can result in the observed characteristics of science as a human enterprise. In combination with emotion, a similar process yields the characteristics of the fine arts; and, in combination with volition, the characteristics of human industry or craft.

The emotions form as significant a part of Bain's mental system as does the intellect. Bain's development here is novel (see Figure 3.20). The emotions are first classified in terms of pleasure, pain, and neutral excitement, initiating a breakdown of the fundamental dichotomy of the felicific calculus that had dominated discussions of emotion up to this point (with the partial exception of Brown). Nonetheless, most of Bain's emotions retain a strong felicific valence and appear in the opposed pairs characteristic of this framework. Significantly, though, some do not. In addition, Bain recognizes differences of degree – in their characteristic quality and intensity – and actualization (or, conversely, ideality).[45] Furthermore, the emotions can be classified according to a two-fold set of associations with, on the one hand, objects and, on the other, actual conduct and social structures. Within this new field he has opened up for the emotions, Bain establishes what he claims is a comprehensive natural hierarchy of dependence among the several emotions, with some more fundamental than others. The two most fundamental paired emotions are those of terror/confidence and the tender emotion (love/hatred). This latter, Bain – reversing Hume – makes a recondition of self-complacency (pride/humility), eliminating the need to postulate a separate capacity for sympathy. More secondary are feelings of liberty/restraint, dependent on particular

[44] Case in point: For Bain, aesthetic phenomena consist of "distinct and co-ordinate groups" that can be natural-historicized. [Bain, 1859, pp.252-285] In this respect, they are only one of many compound-complex mental phenomena that emerge from processes of association.

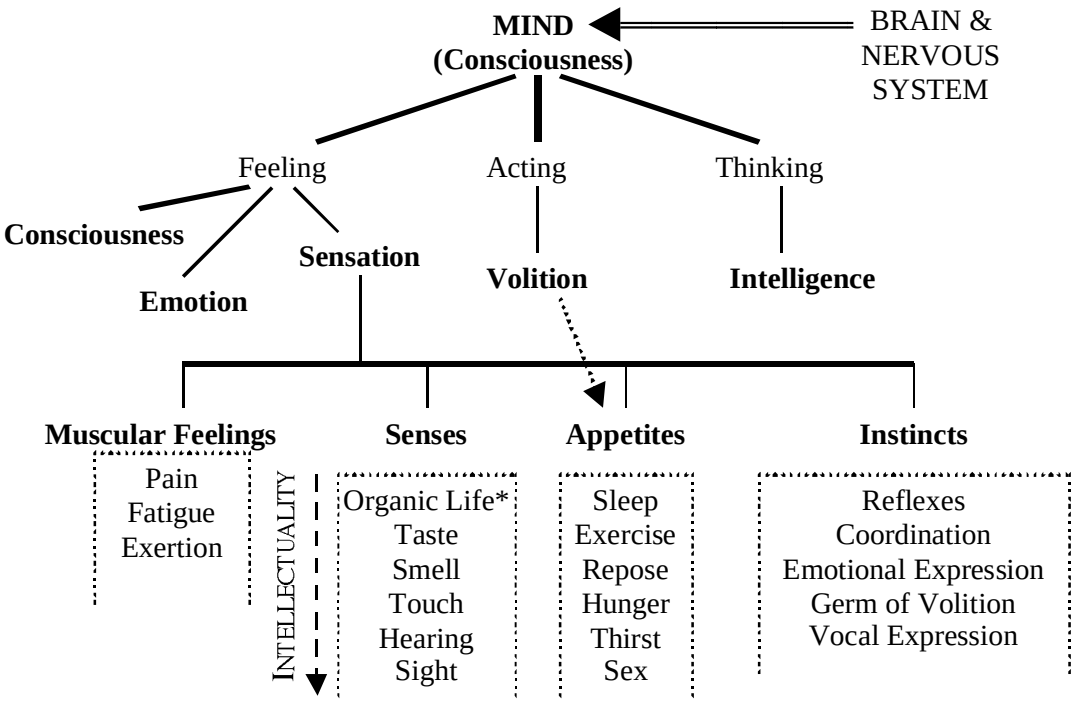
[45] That is, on this last point, the emotions differ as to whether they have an actual object or an ideal one. This mimics Hume's second use of a natural versus artificial distinction among the passions, but in strikingly different terms.

circumstances; and wonder/ennui, dependent on particular sensory inputs. Feelings of power, impotence, irascibility appear as subsidiary to liberty/restraint. The emotions of pursuit and the intellect are yet more contingent, depending on our other capacities for volition and thought, respectively. With all these emotions, as with the senses before them, Bain traces out their practical outcomes and applications as an indication of the scope of mental science.

The capacities of the will – active as opposed to intellectual powers, although the two are inextricably linked – are developed as a dynamic system arising out of the spontaneous movement and innate emotional susceptibility of the human organism (see Figure 3.21). Given our physical constitution and stimuli to which we are sensitive, we move and, in the process, register corresponding affective states. Over time, these develop into a conscious will that is capable of resolution, deliberation, and effort with respect to mental and physical actions. Volition, once mature thus participates in lived experience as a partner with our thoughts and feelings. Embedded in this model of the will is a conception of motives, means, and ends that Bain adopts wholesale from Mill. Accompanying these features is a novel interpretation of belief. In Bain's view, belief arises from general consciousness as a state of preparedness to act on given evidence. It thus, properly, has its closest reference to the will, although it has normally been treated as a feature of the intellect. Bain's treatment of belief famously presages that of the American pragmatist movement led by C.S. Peirce and William James. Peirce (reliably or not) attributed to Bain the origin of his own definition of belief as that upon which we are prepared to act, and this position *is* clearly evident in the pages of *The Emotions and the Will*.[46] There is, of course, an intellectual role for belief; it is belief, for Bain, that leads us to the establishment of truth (understood in inductive terms). But this type of belief (experiential) is only one of three basic classes – experiential, emotional, and intuitive – with mixed types also being expected. Thus, belief is a broader category in Bain's work than in that of his predecessors. It is also defined in different, more functional and more specific, terms.

[46] That Bain anticipates Peirce in this regard is indisputable. How this influence was transmitted is more problematic. Best evidence suggests that Peirce was exposed to Bain's thought through the mediation of his Harvard schoolmate, Chauncey Wright. For more detail on this issue, see Fisch [1954], Brent [1993], and Menand [2001].

Figure 3.18: The Departments of the Human Mind in Bain's Work



* Sensations of Organic Life
Nervous Feelings
Starvation, Thirst
Respiratory Feeling
Heat/Cold
Digestive Feeling
Electrical Feeling

Figure 3.19: Bain's System of Associations and their Influence

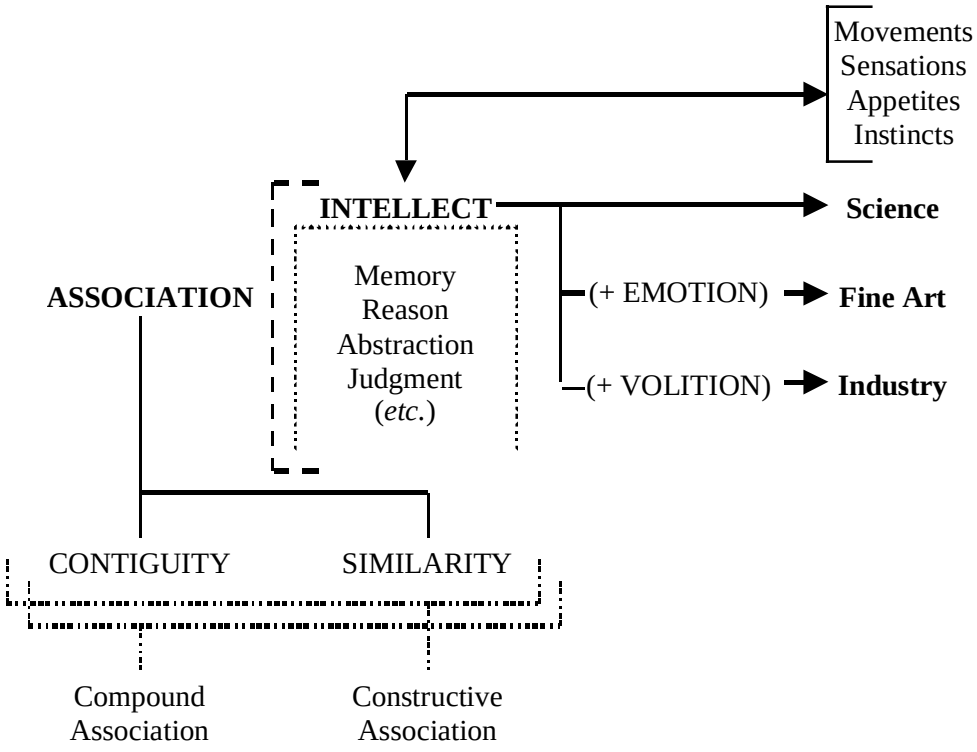


Figure 3.20: Bain's Classification of the Emotions and their Modes

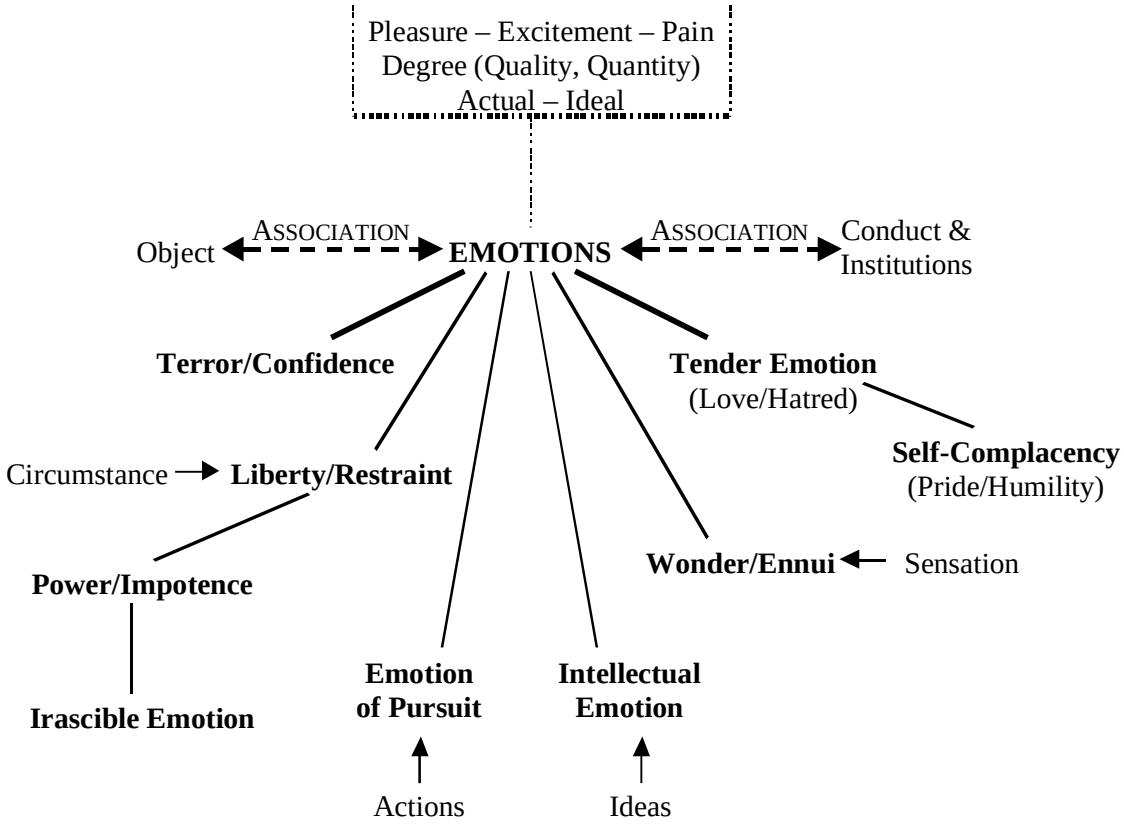
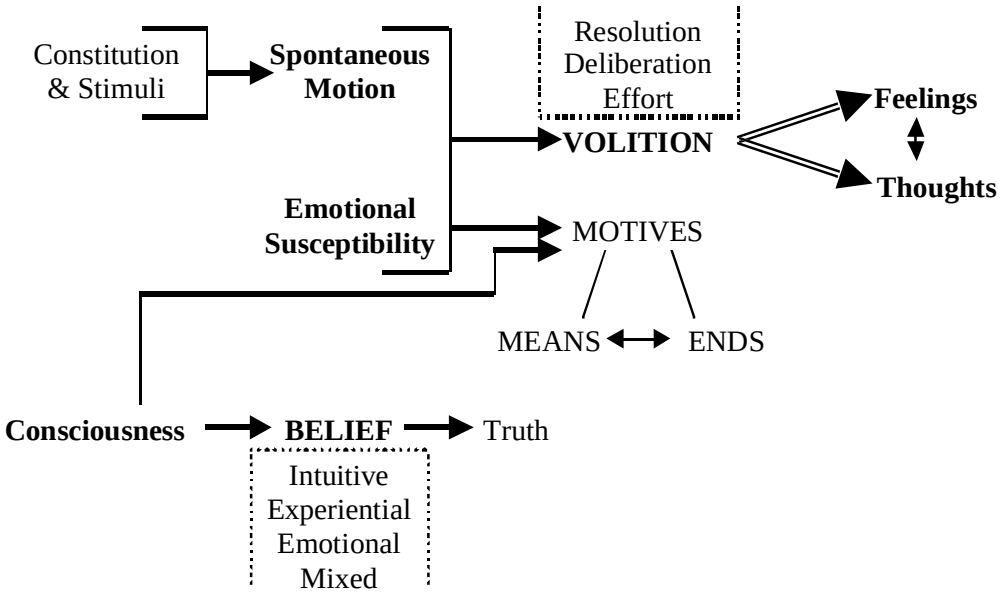


Figure 3.21: The Will and Its Influence in Bain's System



3.1.8 Synopsis

Taken as a whole, this series of proposed systems of the mind displays – as I have demonstrated – a fair amount of complexity. Before discussing apparent relationships between systems, and trends among them, it may be useful to provide a review of some of the salient concepts involved. These are often posed as dichotomies – forming spectra or dimensions of variation between two poles – although this is not a universal characteristic. Among the important dimensions with respect to which we might compare the conceptual systems summarized above are (in no particular order): (1) body-mind; (2) force or intensity; (3) natural-artificial; (4) simple-complex; (5) structure-process; (6) religious-secular; (7) intellectual-active; (8) theory-practice; (9) temporality;

(10) pleasure-pain; (11) rational-emotional (thinking-feeling).[47] In identifying these as dimensions of analysis, I do *not* mean to suggest that their meanings form an unproblematic background for the discussion of the mind, nor to imply that they are used explicitly in a dimensional sense (under the names given here) by participants in that discussion – although they have been extracted from an analysis of the selected texts. Instead, I am trying to locate precisely the *problematic* terms or characteristics under tension in these discussions. This will mean that we should expect them alternately to appear and disappear, to change names, to be redefined or reoriented relative to others, to be implicitly assumed or quietly rejected. Such fluctuations demonstrate the dynamics of the conceptual tradition. In some cases, the appearance of concepts has been relatively constant: The use of the notion of time, understood in an effectively similar way, is a universal in the works I have examined – but the significance of time to the discussion has shifted nonetheless. In some cases, they appear to exhibit significant correlations with one another: Consider, for example, the common orientations of the simple-complex, immediate-remote, and common-abstract dimensions. Alternately, consider the possible decoupling of force from the attributes of either pleasure or pain – that a neutral (non-pleasant and non-painful) excitement could occur in the mind is impossible in some proposed systems and not in others. Since what is of interest here is exactly these kinds of dynamics, the eleven dimensions I have identified form – I think – a reasonable initial framework within which to compare the conceptual structures of Hume *et al*. with one another.

But this delineation of the conceptual space is only part of the task. Within this space appear different conceptual clusters. Perhaps the three most central to the case at hand is that of the self, of soul-mind, and of belief-knowledge (the latter two being bundled notions in most of the work I have considered). There is, though, an array of others: idea, association-suggestion, faculty, relation, sense, sensation-perception-affection, will, passion-emotion, *etc.* Some of these concepts are more stable than others. The names for the stages of mental awareness of the world (sensing, perceiving, feeling, and so on) are in constant flux during the period in question, both in terms of positions in

[47] The additional, crucial dichotomy between science and philosophy will be taken up in the next chapter.

the overall system and individual member sets. Association and faculty, by contrast, stand stably opposed along an axis of process versus structure over the same time – although their member sets are in debate. The ongoing instability of the term 'natural' – which displays multiple conflicting meanings within conceptual systems such as Hume's – complicates the delineation of mental scientific subject-matter.

Even without differences in the established conceptual space, or the meanings of terms, the study of the mind exhibits, in the works I have examined, fluctuations in understood scope. Most conspicuously, perhaps, there are issues concerning the inclusion of physiology as a proper element of the field of study. Similar issues appear regarding the propriety of considering qualitative sensation as a precursor to mental function. Further, the subjects of language, political economy, religion, civics, education, and other possible practical entailments of human science are also mixed up in the discussion. Even beyond questions of the scope of inquiry, differences in organizational methodologies for concepts are also apparent. For instance, the natural historical approach to cataloging mental phenomena common in the 1800's is in sharp contrast to the attempts to create comprehensive theoretical systems of the preceding century.

A review of the development I have given here may raise the complaint that I have answered few questions about the specific conceptual structures I have outlined. The full significance of each author's work may still be an unresolved issue, and the relationships among these systems may be hazy at best. But a full-fledged history of conceptual evolution and the propagation of traditions was never my goal. Instead, I set myself the more modest task of assessing the utility of conceptual structural comparisons in revealing trends in the study of the mind in nineteenth century Britain. Since the problem at hand here is only to identify an historical problematic within the analytical domain of conceptual structures, I think I have been moderately successful. On the basis of a rough comparative survey of conceptual structures, we can I think make a good case for an ongoing process of incremental change rather than a single abrupt conceptual shift. Furthermore, for the reader still dissatisfied with a lack of close analysis of the changing use of concepts, my discussion in the next chapter will indicate much more clearly how the detailed investigation of conceptual change within this historical problematic can proceed, using the science-philosophy distinction as test case.

A brief summary of the most important features my initial survey has revealed is as follows: There was a common dimensional ground for discussing mental phenomena in eighteenth century Britain; it assumed an analysis in terms of simplicity-complexity, pleasure-pain, natural-artificial, and often the force of stimuli or activity of response. These categories persisted in the nineteenth century, but were replaced as basic structuring terms by such alternate dimensions as temporality and the speculative-practical spectrum, as well as by a contingent natural historical approach. Earlier dimensions such as the pleasure-pain spectrum of the felicific calculus were called into question by the consideration of phenomena that could not be captured in existing terms. Increasing secularization of the conceptual systems could be postulated, but only in a very tentative way – as we will see in the next chapter. The association versus faculty debate that dominated the terms of discussion in the interacting sub-traditions remained unresolved through the examined period. Distinct changes are evident, though, in the terms of discussion for key concepts such as belief, will, and self. A trend toward application and popularization of the mental sciences is conspicuous. I will return to the discussion of such broad trends within the problematic in my conclusions in chapter 5.

3.2 Expository Structures

Having examined the conceptual apparatus deployed by each of these seven thinkers, and the developmental trajectory described by changes in these structures over time, we can now proceed to explore the vehicles of transmission for each set of concepts – the texts themselves. This will entail an explication of the textual structures in terms of the scale of the major works of each author, the topical scope covered by these works, and the organizational schemes used within the works to present the concepts as a coherent set. Again here, as in the previous section, each author's contribution(s) will be elaborated individually in succession. Afterwards, I will present some thoughts about the significance of this element of intellectual structure as indicated by the full set of works I have examined.

In addition to the purely textual elements that form the precise matter of this section, it will be useful to keep in mind an additional facet of the intellectual literary tradition that cannot (in most cases) be directly discerned from the works themselves –

the intended audience. As will emerge more clearly in later sections, where social aspects of the study of mind are given fuller coverage, the significance of these texts is (at least in part) dependent on the relationship between an author and his intended or anticipated readership.[48] In particular, the express crafting of texts to meet the needs or desires of certain social groups will be an important consideration in attempting to understand the evident structure.

The texts under consideration here fall into two fairly distinct groups according to their intended audiences, one set being addressed primarily to the general reading public in Britain at the time of their publication and the other being intended exclusively for the population of the universities. In the latter case, the examples I will address both come from the Edinburgh tradition, but represent – I think – a broader spectrum of educational norms in British higher education. For more detail on the history of education in Britain during the nineteenth century, see section 4.2 in the following chapter. Note also that these audiences exhibited substantial overlap, with the university-educated class forming a significant subset of the reading public at large. Nonetheless, the missions of the two sets of texts still – as I will show – diverge, with the popular works being intended as generally edifying and the university lectures being geared towards instruction in a bounded and intentionally conceived curriculum.

As has been well documented, the development of a culture of reading and writing in eighteenth and nineteenth century Britain involved a series of distinct stages.[49]

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[48] Recall the arguments of Skinner detailed in section 1.4.

[49] For an introduction to this topic, one might begin with Altick [1973], Coser [1965], Houghton [1957], Outram [1995], and Phillips [2000]. Altick provides a general overview of social trends and assumptions in the Victorian era, including religious, political, and artistic phenomena. Coser extensively addresses the social mechanisms underlying modern intellectual discourse, with the first of the three parts of his work focusing on the eighteenth and nineteenth centuries in France and Britain. Houghton surveys British intellectual (and anti-intellectual) attitudes during the middle third of the nineteenth century. Outram devotes her attention to the earlier Enlightenment period, both in Britain and on the continent, and (among many other concerns) examines changes in reading patterns evident in the eighteenth century. Phillips specifically focuses on the changing patterns of writing history in Britain from 1740 to 1820, but some of his discussion has broader relevance for changes in intellectual traditions as a whole within that context. My discussion of changes in the potential public audience for works on the human mind here is drawn, in large part, from these sources.

The early eighteenth century coffee house provided the first public setting for a relatively classless discussion of the issues of the day, and coincided with the rise of a culture of newspapers and other periodicals, such as the *Spectator* of Addison and Steele. Along with the beginnings of an affluent and literate bourgeois middle-class, these developments marked the inception of a significant market for new intellectual topics, such as those evident in the work of Hume, Hartley, and Reid. The rise of the new vocation of 'man of letters', or professional writer – of whom Hume was one – was a product of these circumstances. The reign of the coffee house culture was, however, relatively brief, and was succeeded by a less communal culture of literary consumption sustained by an ideology of self-improvement and the introduction of the new institution of lending libraries. The new middle class embraced these as a mechanism for social ascent, thereby fueling the growth of large publishing houses at the beginning of the nineteenth century. The end of the Georgian era was accompanied by the birth of another family of periodicals, the highly political 'reviews' – including the Whig *Edinburgh Review* (of which Brown was an early leading light) and the radical *Westminster Review* (which saw the publication of many of Bain's early works). These publications were pitched primarily at the upper spectrum of British society, who constituted the established active literary market. This segment of the public had intimate connections, whether by achievement or aspiration, to the university culture. In partial tension with this sector, the increasing participation in literate life by those of lesser means was supported by publications such as *Chambers' Papers for the People* and institutions such as the mechanics' institutes.[50] A certain amount of anti-intellectual spirit was associated with the rise of these vocational training institutions, and this spirit began to migrate higher into the social order as the universities too began to embrace specialist education.[51] By the end of the nineteenth century, the ecumenical literary environment that had begun in the coffee houses and carried through the time of the improvers and the reviews had largely dissipated.

[50] Significantly, Bain – the son of an Aberdeen weaver – was a beneficiary of the resources of the mechanics' institutes and a contributor to *Chambers' Papers*.
[51] C.P. Snow's lamentations regarding the bifurcation of humanist and scientific cultures find the seeds of their discontent here.

Given these developments, it should be obvious that - when considering the potential popular audience for works on the human mind – we must factor in a dynamic cultural context. The reading public was growing and changing throughout the period that British surveys of the mind flourished. Hume's audience was not Bain's audience. Nonetheless, certain commonalities can be found. If we ask who was following the development of the study of mind, we must look to the upper middle-class as the central target demographic – those persons (surely mostly male) who, if not recipients of higher education themselves, could at least aspire to that future for their children. The adjacent aristocracy and middle bourgeoisie (the latter multiplying in their numbers as time went on) essentially complete the market for books such as the ones I am surveying.

Meanwhile, in the universities, another pattern can be discerned. The eighteenth and nineteenth centuries were the period of the classical general curriculum, even as the results of the new physical sciences became topics of more and more discussion. The study of the mind (as moral philosophy) was a core part of this university culture. Furthermore, while the universities became open to a broader (if still narrow) spectrum of the British public as the period wore on, the universities were nonetheless still the proving ground for Britain's ruling elite, rather than a general resource for the public. Texts geared to this end might be expected to have a different character than those being sold to a broader, elective audience.

In what follows, I will be unable to provide much more than a glance at the parameters involved in dealing with the relationship among author, text, and audience. I do hope at least to demonstrate the intrinsic connection between the conceptual concerns of the previous section and issues of textual structure. I will explore some of these relationships further in section 3.5 below – which addresses two specific cases in which textual changes have proven influential on the apparent concept set of an author. Furthermore, the overview of content provided here will be a useful preface to the exploration of cited icons in section 3.3.

3.2.1 Hume

Probably the best known – currently – of all the works I will be considering here, Hume's *Treatise* was originally published, anonymously, in two parts in 1739 and 1740.

The sections dealing with mental phenomena were published first, while Hume's application of this doctrine to morals followed – with some other revisions – a year later. In its present accepted form, the *Treatise* consists of three books, plus an introduction, an appendix providing corrections to the original text, and an abstract advertising the work. These were all approved by Hume for publication in 1740, but he never fully accepted the *Treatise* as part of his oeuvre; while he acknowledged authorship in the advertisement to his later *Enquiry concerning Human Understanding* [1748], he did so only to repudiate it in favor of the new work. Nonetheless, the *Treatise* – as the most wide-reaching of Hume's works on the science of man – serves as the best evidence for the scope Hume understood that enterprise to have. The conceptual matter of the *Treatise*, I maintained in the previous section, is effectively replicated in differently argued segments within the 1748 *First Enquiry*, the 1751 *Enquiry concerning the Principles of Morals*, and the 1757 "Dissertation on the Passions."[52] While some minor terminological variations are evident in the later works, the primary differences that appear are in the argument rather than the basic terms of discussion.

The *Treatise* runs to some 240,000 words (about 670 pages in my edition).[53] The main body is organized according to the following plan: The Introduction discusses the prospects for a new science of man (see Chapter 4). Book I treats the subject of Understanding, covering – in order – ideas, impressions, association, relation, and knowledge as well as offering a critique of previous attempts to explain the subject. Book II deals with the Passions, first giving an explanation of their natural origins, then dealing with two pairs of indirect passions (pride-humility, and love-hatred) and the will and the direct passions (pleasure-pain, *etc*.). Book III – finally – examines justice (and the attendent development of vice-virtue), government and law (and the development of allegiance), and social behavior. Hume explicitly conceives the sequence of presentation

[52] This approximate equation of the conceptual matter of the two deserves closer attention, since they are clearly *not* identical sets of documents. As a first-order approximation, though, the transfer of the conceptual system from the *Treatise* to the later works is fairly complete, especially when viewed alongside the differences between editions of Hartley (see section 3.5), Mill (section 3.6), or even Reid (section 3.2.3).
[53] Word count obtained from a scan of online text.

as developmental, and we have – of course – examined the concept set as a whole in the previous section.

A number of questions arise when considering such work specifically from the perspective of the text. We might concern ourselves with the intended audience as influential upon the author's expository plan (both in structure and content).[54] We might also consider stylistic details as an important aspect of the conveyance of concepts.[55] Here, I will briefly address another point: The issue of textual comprehensiveness. This is a common point of concern for all the work I am considering.

Hume's *Treatise*, I have noted, provides the fullest available treatment of his project for a science of man. The concepts Hume utilizes form a system – an explanatory engine – for the study of human nature. Hume's apparatus for explaining the mind is developed primarily in Book I, while Book II discusses passions as a higher order phenomenon and Book III introduces an application in the domain of civics. We know, too, that Hume performed this exposition of topics again in his later *Enquiries* and *Dissertation*. Yet, there still remains the question of Hume's overall intellectual project. Does the *Treatise* – or Hume's later rethinking of the matter therein, or his oeuvre as a whole – represent the scope Hume intended for his enterprise? This, for a work attempting to establish a new science, would appear to be an important issue. However, at one level, it would also seem to be unresolvable: we can never be *sure* of whether what an author says is what he meant to say, in its entirety. At another practical level, though, we can examine the related body of work to look for similarities and differences.

In Hume's case, the most important other work to explore may be the 1757 *Four Dissertations*, including "Of the Standard of Taste", "A Dissertation on the Passions" and "The Natural History of Religion". Most of Hume's later career was spent writing essays on polite subjects, and histories; only occasionally did he return explicitly to the operational minutiae of the human mind, or the application of these operations. The 1757

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[54] This would lead, for example, to an examination of Hume's ambivalence about expressing his atheism to the public (creating a limit on content). Other related avenues would be the investigation of commonly understood tropes and conventional narrative patterns. I will not pursue these here.

[55] One aspect of this analytical direction, among many, is the deployment of cited icons I will discuss in the next section.

essays, though, exhibit a concern with subjects that perhaps should be superadded to the Humean conceptual schema mapped out in the *Treatise*. Hume's explicit attention to aesthetic (i.e., artistic) phenomena, and to religion as a social development, does appear to extend Books II and III of the *Treatise* fairly directly, just as the *Dissertation* recapitulates the original matter of Book II. Especially in light of the later inclusion of such subjects in the discussions of the post-Humean intellectual tradition, this suggests that some modifications of the conceptual system presented in the previous section (3.1.1) would be necessary to do complete justice to Hume's intent.

3.2.2 Hartley

Hartley's original 1748 *Observations* likewise present, in a single work, the most complete treatment that author gave to problems of the human mind.[56] Hartley divides his project into two Books – the former dealing with "the Frame of the Human Body and Mind" and the latter with "the Duty and Expectations of Mankind." In essence, Book I deals with natural phenomena, and Book II with religion, both natural and revealed. Hartley's plan of the subject is thus pronouncedly different from Hume's. This becomes even more evident when the content is examined more closely. The four chapters of Hartley's first book deal in turn with (1) the theory of vibration and association, and the general accord of our ideas and activities with these principles; (2) vibration, association, and the several senses; (3) language and human faculties; and (4) intellectual pleasures (or the accordance of emotions with the faculties already described. The second book, also in four chapters, treats (1) the being and attributes of God; (2) the truth of the Christian religion; (3) the "Rule of Life" and principles of morality and behavior; and (4) our expectations in this world and the next. In its initial form, the *Observations* runs to

[56] While Hartley's work appeared eight years after Hume's full *Treatise*, it should be thought of as a common participant with it in a larger ongoing intellectual discourse, rather than a direct reaction. Best evidence suggests that the full plan of Hartley's work was conceived in the 1730's and written over the course of at least a decade prior to its ultimate publication. For more detail on this history, see Webb [1988].

approximately 320,000 words, discussing the topics just cited.[57] The vast majority of the conceptual details explained in section 3.1.2 are derived from the first book.

The main difficulty in identifying the conceptual system of the original *Observation* as 'Hartley's system' is one of reception. As I will discuss below in section 3.5, Hartley's intellectual reputation was significantly influenced by the publication, in 1775, of a new edition heavily edited by Joseph Priestley. This later edition is the one that cemented Hartley's reputation for the nineteenth century, but it eliminates much of Hartley's original design. As I will discuss in full later, this textual alteration had a profound effect on the appearance of both Hartley's conceptual system and his overall project to later recipients.

3.2.3 Reid

Capturing the sense and scope of Thomas Reid's work on the mind presents yet another set of challenges. First, Reid – more than any other author I am considering – was the founder of an identifiable school, that of Scottish Common Sense Philosophy. This put his own intellectual work at the mercy of numerous interpreters almost from the moment of its publication. Such fellow travelers as Beattie, Campbell, Stewart, and ultimately Hamilton have almost as much claim to Reid's intellectual heritage as the author himself.[58] Disentangling the practical contributions of the leader of the school from those of his followers or interpreters not only requires close attention to the original texts but also to the kinds of intellectual-genealogical relationships I will address in section 3.4.

Even more basically, a second issue presents itself when we turn to the task of extracting a 'complete' conceptual structure from Reid's texts themselves. Unlike either Hartley or Hume, Reid did not ever articulate his views in a single *magnum opus*. Instead, we find his significant work on the mind divided into at least three discrete texts produced over a three-decade period. The earlier *Inquiry* of 1765 has the simple plan of

[57] Word count here, and all subsequent ones, obtained by random sampling of text. The cited edition of Hartley is 970 pages in length.

[58] This is the same problem, in miniature, as that of separating the impact of Aristotle on seventeenth century philosophy versus that of Aristotelians. The opinions of Reid and the opinions of Reidians were admixed in the propagation of the intellectual tradition.

considering the powers of the several external senses. In approximately 100,000 words, Reid proceeds through a seven-chapter structure, with one each on the five Aristotelian senses being capped on either end by an introduction and conclusion. The body of the work contains much on experimental results, observations, and speculations regarding the senses, but does not introduce physiological matters. Conclusions about the relationships of the senses to an array of mental functions are discussed, but in an anecdotal rather than systematic fashion.

Such systematicity appears only in Reid's later works - the two volumes of *Essays* on the *Intellectual* [1785] and *Active Powers* [1788]. These divide the human mental powers between them and develop a comprehensive treatment of this subject in opposition to the associationist positions of Hartley and Hume. The intellectual powers (or faculties) are given approximately 300,000 words of attention, divided into eight essays ordered as follows: (1) "Preliminary" – methods and a division of the subject; (2) powers of the external senses (a brief recasting of the earlier *Inquiry*); (3) memory; (4) conception; (5) abstraction; (6) judgment; (7) reasoning; and (8) taste. But for the absence of a conclusion, this is the same plan as observed in the 1765 work – a consecutive treatment of a set of functional structures of the mind – but Reid has moved to a higher level of analysis in making the senses only a subpart of his scope.

The 180,000-word set of *Essays on the Active Powers* is less linear in pattern. Reid here submits his subject in five essays: (1) an overview of the active capacities of man; (2) the will; (3) principles of action – mechanical, animal, and rational; (4) moral liberty; and (5) morals. This structure has much the same cast as the later parts of both Hume and Hartley, insofar as it is developmental toward ultimate conclusions about society, starting with simple principles of human behavior and feeling and then moving to the domain of activity in the world. The third essay also appears as something of a touchstone for later synthetic treatments of the interactions of various human powers, in both the associationist and common-sensist camps.

As for Reid's conceptual system as a whole, the indications in the later works are that they are intended as comprehensive with respect to matters of the mind.[59] The overlap in subject matter between the *Inquiry* and the second chapter of the first *Essays*

[59] I say this with due attention to Skinner's cautions laid out in section 1.4.

assists in checking the congruence of these two works in terms of conceptual system. The three works together appear to construct a fairly coherent whole.

This whole, the subject of the mind, according to Reid, shows some interesting features. First, Reid's move – in the earliest text – to a position intermediate between Hartley and Hume suggests a novel strategy. Reid begins his attack on associationism in this work by explaining the details of sensation intermediary between Hartley's physiology and Hume's mentalism, thus introducing a wedge that he will later use to defend the supposition of independent faculties: if the several senses must be viewed in terms of the differentiated structural-functional roles they play in mediating between the material and the mental, then we must grant the same of other human powers.[60] Second, Reid's inclusion of a variety of subjects not seen as central elsewhere requires some further attention. For example, following the position of the faculty of taste here versus that in other contemporaneous work (Hume's "Of the Standard of Taste", among others) would, I think, reveal more dimensions of the projects of the eighteenth century intellectual traditions. Discussions of language - in Reid, Hartley and others – would give similar results along a different interface.[61]

3.2.4 Brown

Brown's premature death at 42 presents us with a special problem regarding his work. The primary public vehicle Brown intended for his work was the *Sketch* that he left unfinished at his death. However, the incompleteness of this short volume, coupled with the fact that it was written in haste during Brown's illness, make it a difficult document to use in reconstructing Brown's conceptual system.[62] In the preceding section, this task was greatly facilitated by cross-referencing his posthumously published *Lectures*; the two works are exactly parallel in the order of their development, even

[60] As an aside here, it would be interesting to pit Reid's treatment directly against the similarly situated (topically) but firmly associationist development of Condillac. My suspicion is that this juxtaposition is exactly what Brown later uses to argue for his own Humean-Reidian synthesis, but this would need to be demonstrated explicitly.

[61] And, if I am right, we can include Hume's treatment of philosophical relations as part of this language debate in its formative stages.

[62] Brown's *Sketch* is the shortest of the works I will consider, at about 60,000 words. The parallel sets of *Lectures* are much more extended at some 670,000 words.

through Brown's proposed extension of the *Sketch* to completion – which is briefly noted in the table of contents of that work. This one-to-one correspondence of topics was a great aid in fleshing out the conceptual system behind the shorter text.

However, the *Sketch* and the *Lectures*, on another level, are very different works. This is not only a matter of scale and scope (the much shorter *Sketch* omits the heading of ethics treated as the second part of the *Lectures*, and truncates the explication of the included topic of 'physiology').[63] Nor is it simply a matter of organization (the *Sketch* adheres to a plan of 20 chapters in 4 sections, while the *Lectures* are organized into 100 individual topics in sequence, apparently as an annual set of performances). It also importantly reveals the textual dimension of audience, as I will examine more closely in the discussion of Hamilton's work below. While the *Sketch* was intended as a popular treatment, the *Lectures* are pitched at a very specific live audience – attendees at the University of Edinburgh – and were not envisioned for broader publication. The explicit focus of the *Lectures* does provide certain advantages. For example, even beyond the fact that we know to a very good approximation who Brown was addressing, he provides us with a statement of purpose for his course on mental philosophy; his students were to be prepared as an elite on the subject, "to be yourselves the instructors of all the generations that are to follow you." [Brown, 1828, v.1, p.16] On the other hand, and partially as a result of his instructional project, the differences between the two texts in content make it difficult to decide what aspects of the exposition form an intrinsic part of Brown's subject. In the case of the *Sketch*, we have a text largely devoid of citations (as we will see in the next section) and also disconnected from many propadeutic concerns that serve, by contrast, to contextualize the *Lectures*. The *Lectures* themselves must be regarded as partly intended to transmit a particular subject matter and partly also as embedded in a larger curriculum.[64] These various features of the two texts complicate any unitary positioning of Brown's conceptual system. A real understanding of the

[63] 'Physiology', in Brown's hands, is much closer to Reid's domain of mental phenomena than it is to the explicit discussion of nervous and organic structures we see in Hartley or Bain. We might better equate it with 'phenomenology.'

[64] Whether this was a curriculum by design or default is largely irrelevant. Too, even in the case of Brown's advertised subject, the *Lectures* are only a part – the excluded matter of political economy appears among his other courses.

significance of Brown's works cannot proceed without reference to audiences and the communities in which they moved.

3.2.5 Mill

James Mill's 1829 *Analysis* would appear, at first glance, to be a relatively simple case for an examination of textual structure. It is the sole major contribution of the author to mental philosophy, and falls into an identifiable class of popular published works on this subject during the early nineteenth century. The work is in two volumes - totaling some 225,000 words – and covers a set of topics familiar from the earlier contributions of Hume, Hartley, and Reid: The first volume's 13 chapters cover, in order, (1) sensation; (2) ideas; (3) association; (4) naming (language); (5) consciousness; (6) conception; (7) imagination; (8) classification; (9) abstraction; (10) memory; (11) belief; (12) ratiocination; and (13) evidence. The second volume turns to an additional twelve chapter topics, numbered consequent to these – (14) names; (15) reflection; (16) intellectual and active powers; (17) pleasure and pain and (18) causes thereof; (19) ideas of pleasure and pain; (20) past and future pleasures and pains and (21) their causes; (22) motives; (23) social acts; (24) will; and (25) intention. While maintaining the eighteenth century tradition in terms of the basic categories and order of development, Mill – like Brown – prominently introduces the newer element of temporality into his plan in the later chapters. As such, the strong suggestion of the original text is that of a contribution to an ongoing tradition – advertised as Hartleyan, but closer in written plan to that of Reid.

However, Mill's work – like Hartley's – was subject to a later editorial influence that recasts it significantly, as we will see in detail in section 3.5. The second 1869 edition of the *Analysis* demonstrates a different relationship to the original than did the fate of Hartley's *Observations*. While Joseph Priestley's edition of Hartley involved primarily the excision of large portions of Hartley's system, Mill's posthumous editorial team performed a largely additive task. Leaving the elder Mill's original text untouched, the four editors of the 1869 *Analysis* added commentary – introductory, footnoted, and appended – that brought the length of the revised work to approximately 300,000 words (the new material thus totaling more length than Brown's entire *Sketch*). As we will see,

this editorial intervention significantly recontextualized the work, altered its patterns of citation and argument, and introduced associated concepts that were not part of the original structure.

3.2.6 Hamilton

Hamilton's *Lectures*, like Brown's, are transcripts of actual oral performances given at the University of Edinburgh. In fact, the two allow a tidy comparison of variations in the study of mind promulgated at that institution in the first half of the nineteenth century – especially as Hamilton positions his lectures as responding directly to mistakes in the doctrine of his predecessor Brown. Hamilton's course of study was evidently half the length of Brown's, as his development proceeds as 46 sequential lectures (against 100) in 275,000 words (against 670,000). His order of presentation, though, is similar.[65]

As with Brown's academic work, perhaps the most interesting aspect of Hamilton's *Lectures* is its origin in the oral form. We will see below, from iconic and genealogical evidence, that Hamilton's case suggests certain patterns in the professionalization of philosophy. Hamilton, immersed in the academic and scholarly concerns of philosophy for his entire life, was part of a trend towards modern disciplinary identity in philosophy. As such, his lectures (and Brown's too, but largely by way of contrast) directly document the process of indoctrination into the field at the time of their performance. The popular written texts that form the remainder of the set under consideration here cannot have the same specific function attributed to them. Hamilton and Brown's respective *Lectures* thus serve as evidence for the kinds of specialist community building discussed by Kuhn and Macintyre (see chapter 2).

3.2.7 Bain

If the other nineteenth century texts I have addressed begin to indicate patterns of tradition in pursuing the study of mind in Britain, the content of Bain's *The Senses and the Intellect* and *The Emotions and the Will* might be taken as a synthesis of these

[65] Much more work needs to be done to establish specific patterns of standard exposition, but the initial survey suggests at least that there are such patterns.

patterns. These two works, published in 1855 and 1859 respectively, lay out a program for the study of mind that Bain pursued for the remainder of his career.[66] The two books are almost equal in length, each running to approximately 250,000 words – making Bain's the longest treatment on the list save only for Brown's *Lectures*. Bain presents his subject in a now familiar order, beginning – like Brown – with matters of mental 'physiology', then proceeding to intellectual, emotional, and volitional subjects in sequence. However, there are some important caveats here. First, unlike any contributor to the subject other than Hartley (among those I have examined), Bain reinserts the actual details of nervous function as the first topic of discussion, treating it in a 64-page introduction before even addressing problems of sensation. In addition, Bain himself notes that the sequence of presentation should run otherwise to describe the developmental sequence in the human mind – since he would have the power of volition as prior to (if convolved with) the others. This special concern with development and practice, it would seem, reflects the increasing turn towards a philosophy of action that began to emerge in nineteenth century studies of mind (see section 3.1).[67] On the other hand, conspicuously absent from this treatment is the concern with religious implications evident in many of the earlier works – replaced, it would seem, by a secular utilitarian perspective. While any purging of religion from science and philosophy was far from

[66] Yet another textual comparison can be made between these two major early works and Bain's 1870 abbreviation of these matters in the textbook, *Mental Science*.

[67] Some further evidence in this regard: The scope of effect attributed to mental association by Bain is generous. He spends some 130 pages describing the practical aspects of the principle of contiguity alone. [Bain, 1855, pp.318-450] This discussion includes both our susceptibility to association, and its effects on us. In the former vein, Bain considers differences in the degree to which contiguous association operates according to personal character and capacities as well as to the circumstances into which an individual falls. For example, he discusses at length the singular susceptibility of the young to education. With respect to the effects of the law of contiguity, Bain attempts a comprehensive treatment. Moving from the fundamental and simple to the contingent complex, he describes the consequences of this proposed law on human movement, internal and external senses (both singularly and in conjugation), emotion, volition, natural objects, vocal acquisitions, science, art, history, business and practical life, and the sense of self. He pursues this same course with all of the other mental principles he identifies, ultimately encompassing (insofar as he can in a single text) the entirety of the human world within the purview of mental science. See also, in this regard, Greenway [1973].

complete by the 1850's (see chapter 4), the inherent need for a religious interpretation appears to be significantly on the wane.

3.2.8 Synopsis

This section introduced an explicit role for texts themselves, or expository trends more generally, in structuring intellectual traditions. We have seen how texts and textual revisions can orient and reorient the conceptual systems that they convey, in terms of scope, content, and apparent affinities with related matter. The issue of authorial consistency – first introduced among Skinner's worries about the history of ideas in section 1.4 – appears again here both within individual works and from work to work. As we have seen, the extraction of a conceptual system from an author's text(s) is complicated by comparison of multiple overlapping documents, concatenation of disparate elements within the author's oeuvre, and editorial truncation and addition. Distinctions of textual form and content according to intended audience are also evident; we have considered – to some extent - the varying requirements and expectations apparent in both oral and written formats for the general public and for academic audiences in particular.

In terms of overall scope and content of texts, the preceding elaboration of textual structures suggests a rough ordering of my seven authors. We can, I think, take Hume, Hartley, and Reid to be participants in a common discussion, founded on a common set of underlying dimensions. Reid's common sense system used the topic of perception through the special senses especially to drive a wedge between the mental associationism of Hume and the physical-mechanical associationism of Hartley. Brown appears as a synthesist of Hume and Reid, while his contemporary Mill pursued a Hartleyan program using the expository structure of Reid. Hamilton promoted a return to Reid's system versus the bastardization that he saw Brown as having adopted. Bain proposed a final synthesis weaving together Brown and Mill's work, and reintroducing (in a Hartleyan vein) the earlier excluded matter of nervous physiology with the benefit of new experimental results. This is, though, only a very crude sketch that should be followed up on with care.

Further work in this area would help to reveal more detail on the size and identity of the community of discussion surrounding these texts, as well as on the contextual significance of the texts themselves. More examination of the full range of each author's work and of the role, within these oeuvres, of the texts considering here would be valuable, as would further comparison with the contributions of other intermediary figures. Such additional information would help flesh out the initial picture we have of how content, style, and presentation within given expository traditions reflect (and constitute part of) conceptual structures themselves. In addition, more attention to the publication history and reception over time of different texts would help us assess the relative importance of different works to different groups, and reveal possible patterns of standardization and variation within different communities (especially the nineteenth century academic culture).[68]

3.3 Iconic Structures

In this section and the next, I will have opportunity to do little more than gesture toward some initial data and point out a few salient trends and problems. While issues of conceptual and expository structure can be encapsulated in effective ways, the citation of icons in particular works and the personal networks of relationships within which authors operate require direct attention to particulars. Thus, an examination of these latter two levels of structure needs to take on a different character, aiming at comprehensive documentation of patterns of connection to produce a viable depiction. In this section and the next, then, I will present – in largely undigested form – an initial tabulation of information on citation practices in the works under consideration and of intellectual genealogies of their authors (for the latter, see section 3.4). I recognize that much more analysis would be needed to incorporate this information fully into an analysis of the study of the mind. Here, I hope only to demonstrate its relevance to the pursuit of important historical questions about the study of the mind in Britain in the period of interest. More fully even than the expository and textual concerns of the previous section, patterns of attribution and personal interaction reveal the underlying character and development of the intellectual traditions in question.

[68] For some initial forays in this area, see Duncan [1975] and Nartonis [2001].

Iconic structure is constituted by explicit citations of authority within texts, and patterns within these citations. I have conducted a thorough survey of primary texts in the study of mind from Hume to Bain, and have collected the results in a series of ten tables below. These tables, with some exceptions that will be noted, provide a comprehensive listing of figures cited in each text, along with the location of the reference and regard in which they are mentioned. Such data is required to conduct an analysis of patterns of acknowledgement in the traditions in question.

3.3.1 Hume

A summary of the authors cited by Hume in the *Treatise* is given in Table 3.1. It reveals Hume's opus as largely free of explicit external reference: Only 23 citations to non-classical authors appear in the entire original three books (with a few more in the associated introduction and appendix).[69] What is even more interesting is the identity of the icons Hume chooses, and the light in which he makes use of them. The majority of the citations are to 'first tier' figures in seventeenth and eighteenth century natural philosophy, especially in Britain – including, as Paul Wood [1995] accentuates, Descartes, Malebranche, and Locke (see section 2.2.3). These are usually negative assessments on particular positions, in which Hume uses these icons as identifiable markers for his audience. They range in specificity from a loose identification of astronomy with Copernicus, to extended explorations of Cartesian theoretical mistakes regarding faculties and senses. Some interesting omissions occur – Descartes is mentioned only by indirection ('moderns', 'the Cartesians'), and Newton and Bacon are not mentioned at all (the former is named in an appended note; the latter in the 20 page abstract at the end of the work – see section 3.3.8 for more). Furthermore, there is a second layer of references that interestingly reveal Hume's personal situation and social commitments. Among icons used as markers for prominent positions under discussion, Hume interjects a set of references to (now) obscure French figures including Malezieu, Rollin, and La Rochefoucauld. These figures share a common set of characteristics,

[69] There is a smattering of classical allusions in Hume, as detailed in part in the caption of Table 3.1. These seem to serve mostly to establish Hume (anonymously, let us recall) as an author of 'good taste' and erudition to his audience.

having celebrity in the polite society of the French salons.[70] Similarly, Hume's stylish reference to Joseph Addison places him in a context familiar to the English coffee house.

Table 3.1: Icons in Hume's *Treatise*

ICON*	REFERENCE	TOPIC
George Berkeley	*Treatise*, p.17	General ideas reducible to particulars.
Nicholas de Malezieu	*Treatise*, p.30	Existence not applicable to number.
John Locke	*Treatise*, p.35	Bounds of perception in re: time.
(Antoine Arnauld)**	*Treatise*, p.43	Conception of length without breadth.
Isaac Barrow	*Treatise*, p.46	Equality defined by congruity.
Thomas Hobbes	*Treatise*, p.80	Equality of points of time and space.
Samuel Clarke	*Treatise*, p.80	All things caused by others.
John Locke	*Treatise*, p.81	"Nothing" cannot be a cause
J-F-P-G de Retz, Cardinal	*Treatise*, p.153	World wishes to be deceived in re: many things.
John Locke	*Treatise*, p.157	The idea of power.
Nicholas Malebranche	*Treatise*, p.158	Secret force and energy of causes.
(Aristotle)***	*Treatise*, p.219 ff.	Mistakes re: substances, forms, accidents, qualities, *etc.*
(René Descartes)†	*Treatise*, p.225 ff.	Mistakes re: faculties, senses, *etc.*
Benedict Spinoza	*Treatise*, p.243	Modes.
Pierre Bayle	*Treatise*, p.243	Explication of Spinoza.
(René Descartes)††	*Treatise*, p.249	God and volition.
Nicholas Malebranche	*Treatise*, p.249	God and volition.
A.A. Cooper, Lord Shaftesbury	*Treatise*, p.254	Uniting principle of the Universe.
Nicolaus Copernicus	*Treatise*, p.282	Modern astronomy (*passim.*)
(Joseph Addison)†††	*Treatise*, p.284	Fancy and combined sensation.
François de la Rochefoucauld	*Treatise*, p.422	Absence destroys weak passions; increases strong ones.
Charles Rollin	*Treatise*, p.425	Commentary on justice in ancient Greece.
William Wollaston	*Treatise*, p.461	Mistake re: notion that immorality caused by false beliefs.

* Excluding sundry quotations from the classics – including Cicero, Tacitus, Lucretius, and Quinctilian – as well as authors cited in the appended 1740 Abstract to the *Treatise* (Bacon, Locke, Shaftesbury, Mandeville, Hutcheson, Butler, Leibniz, Malebranche, and Descartes).
** Author of *L'Art du Penser.*
*** "Antient Philosophy"
† "Modern Philosophy"
†† "Cartesians"
††† "elegant writer"

[70] They are sixteenth and seventeenth century authors involved in Jansenism and the Fronde, and thus encode a certain political position for Hume among the French.

3.3.2 Hartley

Hartley's icons in the original *Observations* indicate a somewhat different pattern. Most conspicuous is Hartley's deference to Newton, in all manner of regards – physiological, optical, acoustic, mathematical, linguistic, and religious. While the *Treatise* may have slyly advertised Newtonianism in its titular aspiration to adhere to an "experimental method of reasoning", Hartley wears Newton on his sleeve in the manner of a disciple. Other personal affinities held by Hartley are also evident among the figures cited. One group – Gay, Winslow, Mede – reflect his religious commitments as a dissenting Unitarian. Another – including Jurin, Pemberton, Stewart, and Byrom – are selected from among personal associates, in medicine and other of Hartley's natural philosophical pursuits. Only a very few classical authors are cited (all historians). Almost all of the iconic attributions in Book I are factual (regarding natural philosophical subjects), while those in Book II are largely speculative (concentrating on Biblical hermeneutics, and related concerns). The density of icons is approximately equal to that in Hume's work, but the patterns of referencing suggest distinct audiences for the two authors – one a polite society of the francophone intelligentsia and the other a community of devout English Christian men of practical affairs.

Table 3.2: Icons in Hartley's *Observations*

ICON(S)	REFERENCE	TOPIC
John Gay.	*OM, Book I*: p.v.	Association.
Edmund Law.	*OM, Book I*: p.v.	Virtue.
Locke.	*OM, Book I*: p.5.	Association.
Newton.	*OM, Book I*: p.5	Vibrations.
Newton.	*OM, Book I*: p.9 *ff.*	Optics.
James Jurin.	*OM, Book I*: p.39.	Vision.
"Medical writers"	*OM, Book I*: p.42.	Sense physiology.
Dr. Pemberton, Newton.	*OM, Book I*: p.89.	Muscle contraction.
Hooke.	*OM, Book I*: p.94.	Respiration.
Stahl, Descartes, Leibniz, Newton.	*OM, Book I*: pp.110-111.	Voluntary motion.
Newton.	*OM, Book I*: p.133.	Vibrations.
Berkeley.	*OM, Book I*: p.137.	Qualities. Sight. Language of Feeling.
Newton.	*OM, Book I*: p.157.	Systematicity of colors vs. tastes.

Newton.	*OM, Book I*: p.192-197.	Colors.
Newton.	*OM, Book I*: p.194.	Music.
Smith, Jurin.	*OM, Book I*: p.204.	Optics.
Winslow.	*OM, Book I*: p.245.	Ligaments.
Dr. Stewart.	*OM, Book I*: p.245.	Heart muscle.
Winslow.	*OM, Book I*: p.254.	Intercostal nerve.
Byrom.	*OM, Book I*: p.318.	Shorthand.
de Moivre.	*OM, Book I*: p.338.	Statistics.
Newton.	*OM, Book I*: p.345.	Differential calculus.
Aristotelians, Newton, Joseph Mede.	*OM, Book I*: p.348.	Naming and names.
Newton.	*OM, Book I*: p.349.	Proof.
Aristotle, Bishop Wilkins.	*OM, Book I*: p.351.	Categories of evidence.
Newton.	*OM, Book I*: p.352.	*Chronology of Man.*
Descartes.	*OM, Book I*: p.413.	Machine organisms.
Aristotle, Malebranche, Leibniz.	*OM, Book I*: p.511.	Causes of sensation.
Bible authors.	*OM, Book II*: p.73.	Historicity of Bible.
Porphyry.	*OM, Book II*: p.77.	Authenticity of Bible.
William Whiston.	*OM, Book II*: p.105.	Six-day creation.
Whiston, Halley.	*OM, Book II*: p.106.	Comets and Biblical flood.
Dr. Mitchell.	*OM, Book II*: p.109.	Negroes and humanity as single race.
Newton.	*OM, Book II*: p.115.	*Chronology of Man.*
Livy, Tully, Horace.	*OM, Book II*: pp.123-124.	Congruity of Roman history and Biblical account.
Butler.	*OM, Book II*: p.145.	Analogy of natural and revealed religion.
Newton.	*OM, Book II*: p.175.	*Chronology of Man.*
Edmund Law.	*OM, Book II*: p.186.	Revelation.
Whiston	*OM, Book II*: p.399.	Earth as habitation of blessed.

3.3.3 Reid

As already discussed, Reid's studies of the mind appeared in three volumes, which allow for a comparison of the referencing practices of this author early and late in his career, and with regard to various subjects. Tables 3.3, 3.4, and 3.5 – respectively - display the sets of cited icons from the *Inquiry* and the 1785 and 1788 sets of *Essays*.

The general pattern exhibited in Reid's work is one of sustained reference to the philosophers of the preceding centuries, with occasional retrospect to the ancients. He praises the exemplary work (in argumentation and establishment of matters of fact) and exemplary humility of Galileo, Bacon, and Reid in contrast to the intellectual hubris of the ancients. The density of citation in Reid's work is higher than in either Hartley or Hume, and the set of figures given iconic status is more ecumenical. Unlike either of his contemporaries, Reid begins to display the citation practices characteristic of modern philosophical 'scholarship' – a comprehensive survey of opinion on a given matter is attempted at the outset of each topic.

The individual works display certain idiosyncrasies. Reid's *Inquiry* follows this pattern, but its subject matter requires special reference to experimental practitioners where available. In particular, work on optics and the visual sense is heavily cited to underpin the philosophical claims that Reid will defend regarding the significance of the several senses. The *Essays on the Active Powers* are barer of references than is the *Inquiry* or the *Essays on the Intellectual Powers*, establishing a pattern that is common to all of the work I am considering. The topic of man's actions and motives seems to lend itself much more readily to free inquiry than does that of reasoning and perception. While the latter field is, almost without exception, one that elicits generous citation and appeal to authority, considerations of the former uniformly exhibit extended passages of speculation and argument without annotation.

Table 3.3: Icons in Reid's *Inquiry*

ICON	REFERENCE(S)
René Descartes	*IHM*: p.16 *ff*, p.23; p.67; *etc.*
Nicholas Malebranche	*IHM*: p.16 *ff.*
John Locke	*IHM*: p.16 *ff*; p.31; p.67; *etc.*
George Berkeley	*IHM*: p.19 *ff*; p.67.
Pyrrho	*IHM*: pp.20-21.
Zeno	*IHM*: pp.20-21.
Thomas Hobbes	*IHM*: pp.20-21.
David Hume	*IHM*: pp.21-28; p.197 *ff.*
Aristotle/Aristotelians	*IHM*: p.44; p.73; p.206 *ff.*
Nehemiah Grew	*IHM*: p.48.
Democritus	*IHM*: p.73.
Epicurus	*IHM*: p.73; p.206 *ff.*
Joseph Addison	*IHM*: p.89.
Johannes Rudolphus Anepigraphus	*IHM*: p.108 *ff.*
Johannes Kepler	*IHM*: p.114.
Adam Smith	*IHM*: p.116; p.153 *ff.*
Isaac Newton	*IHM*: p.117; p.161 *ff*; p.218.
Nicholas Saunderson	*IHM*: p.117 *ff.*
William Porterfield	*IHM*: p.123; p.132; p.142; p.146 *ff*; p.156 *ff.*
Abbé Mariotte	*IHM*: p.141.
Laurent de la Hire	*IHM*: p.142.
Hermann Boerhaave	*IHM*: p.142.
James Jurin	*IHM*: p.142; p.146 *ff*; p.160 *ff*; p.179.
Aquilonius	*IHM*: p.143.
William Briggs	*IHM*: p.143; p.159; p.161 *ff.*
Martin Folkes	*IHM*: p.154.
Dr. Hepburn	*IHM*: p.154
William Cheseldon	*IHM*: p.155.
Francis Bacon	*IHM*: p.200.
Jean-Jacques Rousseau	*IHM*: p.202.
Plato/Platonists	*IHM*: p.206 *ff.*
Lucretius	*IHM*: p.206 *ff*
Galileo Galilei	*IHM*: p.218.

Table 3.4: Icons in Reid's *Essays on the Intellectual Powers*

ICON(S)	REFERENCE	TOPIC
Galileo, Torricelli, Kepler, Bacon, Newton.	*EIP*: p.xxxvi.	Material systems.
Descartes, Malebranche, Arnauld, Locke, Berkeley, Buffier, Hutcheson, Butler, Hume, Price, Kames.	*EIP*: p.xxxvii	Mental systems.
Descartes.	*EIP*: p.4.	Simple words.
Aristotle, Wolfius.	*EIP:* p.4.	Abuse of definition
Hume.	*EIP*: p.14.	Mind & its objects.
Aristotle, Epicurus.	*EIP*: p.15.	*passim.*
Plato, Neoplatonists.	*EIP*: p.16 *ff.*	Ideas.
Malebranche, Aristotle, Locke, Gassendi, Epicurus.	*EIP*: p.17.	Ideas.
Hume.	*EIP*: p.22.	Impressions
Newton.	*EIP*: p.32; p.46	Principles & axioms.
Descartes, Cartesians.	*EIP*: p.33.	Assumed principles.
Locke, Hume.	*EIP*: p.60 *ff.*	Mental operations.
Thales, Pythagoras, Euclid.	*EIP*: p.62.	Geometry.
Berkeley, Hume	*EIP*: p.64.	Scepticism.
Hume.	*EIP*: p.72.	Philosophy and common sense.
Briggs.	*EIP*: p.84.	Anatomy.
Hartley.	*EIP*: p.86 *ff.*	Vibrations, Newtonianism.
Clarke, Leibniz, Locke.	*EIP*: p.105 *ff.*	God, the Soul.
Galileo.	*EIP*: p.120	Bodies.
Malebranche, Plato, Pythagoras, Locke, Hume, Augustine, Neoplatonists, Bayle, Norris, Arnauld, Bacon, Luther, Calvin, Hooke, Archimedes, Aristotle, Descartes, Newton, Berkeley, Collier.	*EIP*: pp.123-210.	Perception.
Norris, Malebranche, Descartes, Clarke, Newton, Porterfield, Berkeley	*EIP*: pp.216-232.	Immediate perception
Leibniz, Clarke, Aristotle, Malebranche.	*EIP*: p.233-241.	Perception.
Lévesque de Pouilly.	*EIP*: p.248.	Sensation.
Hutcheson, Price, Locke.	*EIP*: p.346 *ff*	Moral sense.
Butler, Locke	*EIP*: p.356.	Identity.
Martinus Scriblerus.	*EIP*: p.378.	Syllogism.
Swift, Cervantes, More.	*EIP*: p.392.	Fancy, imagination.

Cudworth, Clarke, Bolingbroke, Abernethy, Price, Hume, Wolfius.	*EIP*: p.429 *ff.*	Clarity and distinctness of ideas.
Bishop Wilkins	*EIP*: p.505	Systematic language.
Harris, Burnett (Lord Monboddo).	*EIP*: p.509	General notions.
Aristotle, Pythagoras, Porphyry, Abelard, Occam, Luther, Hobbes, Locke, Berkeley, Hume, Newton.	*EIP*: pp.511-531.	Nominalism and universals.
Hutcheson, Priestley, Locke, Pope, Johnson, Buffier, Shaftesbury, Fénelon.	*EIP*: pp.556-568.	Common sense.
Locke, Watts, Malebranche, Berkeley, Pythagoras, Platonists, Aristotle.	*EIP*: pp.569-592.	Judgement.
Cicero, Shaftesbury, Newton, Voltaire, Swift, Norris, Collier, Buffier, Oswald, Beattie, Campbell, *etc.*	*EIP*: pp.593-690.	First principles.
Bacon, Pythagoras, Platonists, Newton, Descartes, Locke, Henry More, Smith.	*EIP*: p.691 *ff.*	Prejudice.
Hutcheson, Addison, Akenside, Price, Epicurus, Locke, Descartes.	*EIP*: p.753 *ff.*	Taste.

Table 3.5: Icons in Reid's Essays on the Active Powers

ICON(S)	REFERENCE	TOPIC
Aristotle, Hume, Euclid, Locke.	*EAP*: p.5-12.	Motion.
Hume.	*EAP*: p.20; p.26 *ff*.	Powers and causes.
Locke.	*EAP*: p.22 *ff*.	Powers and causes.
Plato, Aristotle, Descartes, Leibniz, Newton.	*EAP*: p.41 *ff*.	Efficient causes and agency.
Malebranche.	*EAP*: p.51.	Efficient vs. occasional causes.
Locke, Cicero, Hutcheson.	*EAP*: p.57 *ff*.	Will.
"Anatomists", "Mathematicians".	*EAP*: pp.94-117.	Action.
Epicurus, Kames, Butler.	*EAP*: p.154; p.167	Benevolent and malevolent affections.
Cicero, Peripatetics, Stoics, Hume, Pythagoreans, Hutcheson.	*EAP*: pp.175-186.	Passions.
Hume, Epicurus, Plato, Pythagoras, Cicero, Shaftesbury, Hutcheson.	*EAP*: pp.222-237.	Duty and sense of duty.
Shaftesbury.	*EAP*: p.257.	Virtue.
Abbé Raynal.	*EAP*: p.273.	Souls.
Spinoza.	*EAP*: p.281.	Free agency.
Hume.	*EAP*: p.281.	Cause.
Descartes.	*EAP*: p.324.	Man-machine.
Clarke.	*EAP*: p.325.	Attributes of God.
Leibniz, Hume, Clarke, Augustine.	*EAP*: p.326-346.	Necessity.
Grotius.	*EAP*: p.383.	Natural law.
Epicureans, Peripatetics, Stoics, Hume, Cicero, Johnson.	*EAP*: pp.386-481.	Morals and justice.

3.3.4 Brown

Brown's *Sketch* returns to a pattern of fairly sparse reference, as shown in Table 3.6. Significantly, his list of icons is little changed from the standard set established by commonalities among Hume, Hartley, and Reid. The only significant additions are from the three primary traditions upon which Brown drew – Hume, Reid and the common sense school, and Condillac. Brown is the only nineteenth century author in my study who makes substantial reference to Hume. The evidence from Brown's *Lectures* indicates a much more strongly 'iconic' pattern, in line with that I will discuss for Hamilton in 3.3.6 below.

Table 3.6: Icons in Brown's *Sketch*

ICON(S)	REFERENCE	TOPIC
George Berkeley.	*Sketch*: p.113.	Skepticism.
Berkeley.	*Sketch*: p.115.	Spirit.
Thomas Reid.	*Sketch*: p.123.	Peculiarity of sense of touch.
Reid.	*Sketch*: pp.124-125.	Mental tendencies.
Reid	*Sketch*: p.127.	Object-percipient relationship.
Aristotle/Aristotelians, Reid, Descartes, Malebranche, Berkeley.	*Sketch*: pp.130-131.	Image theories.
Reid, Hobbes, Descartes, Locke.	*Sketch*: p.132.	Reid's mistakes regarding the "way of ideas".
Reid	*Sketch*: p.133.	Objects.
Reid, Scholastics, J.P. de Crousaz.	*Sketch*: pp.136-143.	Ideas.
Hume, Pyrrhonians	*Sketch*: p.142-143.	Skepticism.
Condillac, "French Metaphysicians".	*Sketch*: p.178.	Conflation of different feelings.
John Locke.	*Sketch*: p.179.	Appeals to Locke's authority.
Reid.	*Sketch*: p.179.	Varieties of feeling.
Hume, Aristotle, Scholastics.	*Sketch*: p.191.	Association.
Hume.	*Sketch*: p.192.	Contiguity.
Dugald Stewart.	*Sketch*: p.217.	Permanence.
Hume.	*Sketch*: p.225; p.227.	Contiguity.
Reid.	*Sketch*: p.251.	Habit.
Hobbes, Berkeley, Hume, Campbell, Stewart.	*Sketch*: p.267; pp.282-284	Nominalism re: universals.

3.3.5 Mill

Mill's original *Analysis* is quite similar to Brown's in its iconic base, as might be expected from their common education under Dugald Stewart at Edinburgh. If anything, it shows an even more modern bias, focusing heavily on Locke and Reid and a handful of other eighteenth century figures including Hume and Hartley. Acknowledgements of Newton and Bacon are nowhere evident. Salient among Mill's icons are a set of linguists (Tooke, Gilchrist, Harris) and isolated but significant figures in aesthetics (Alison) and medicine (Gray, Turner). Also evident – for the first time in this study – is the beginning of a practice of excerpting extensive passages from other authors. This is especially characteristic of icons called upon for expert specialist testimony; Mill does not merely *cite* figures such as Gilchrist and Alison, he includes their position wholesale as part of his own development.

Table 3.7: Icons in Mill's *Analysis*

ICON(S)	REFERENCE	TOPIC
Adam Smith.	*Analysis, Book I*: p.27	Feeling.
Thomas Reid.	*Analysis, Book I*: p.27	Sense perception.
Thomas Hobbes.	*Analysis, Book I*: pp.31-32 n.	Constant sensation.
Thomas Brown.	*Analysis, Book I*: p.52.	Serial phenomena.
Dugald Stewart.	*Analysis, Book I*: p.59.	*passim.*
Brown.	*Analysis, Book I*: p.75	Exclusivity of perceived opposites.
David Hume.	*Analysis, Book I*: pp.79-80.	Associations.
David Hartley.	*Analysis, Book I*: p.81.	Duplex ideas.
John Locke.	*Analysis, Book I*: p.83.	Words and things.
Horne Tooke.	*Analysis, Book I*: p.149	Prepositions.
John B. Gilchrist	*Analysis, Book I*: p.149.	History of "of"
Stewart	*Analysis, Book I*: pp.183-184.	Imagination.
Victor Cousin	*Analysis, Book I*: p.186.	Classification.
James Harris	*Analysis, Book I*: pp.191-194.	Universals.
Cudworth, Aristotle, Archimedes, Plato, Euclid, Heraclitus, Pythagoras.	*Analysis, Book I*: pp.194-201.	Immutable essences.
Horne Tooke	*Analysis, Book I*: p.214.	Abstraction and language.
Brown.	*Analysis, Book I*: p.231.	Analysis of mind.
Abbé de Condillac	*Analysis, Book I*: p.254.	Formation of thought.
Brown.	*Analysis, Book I*: pp.287-289.	Formation of belief.
Stewart.	*Analysis, Book I*: p.289.	Belief as *sui generis*.

Locke.	*Analysis, Book I*: pp.290-295.	Belief, association, and error.
Hartley.	*Analysis, Book I*: p.309.	Complex ideas.
Aristotle.	*Analysis, Book I*: p.309.	Reasoning and syllogisms.
Brown.	*Analysis, Book I*: p.313.	Mental science, laws, and analysis.
Hobbes.	*Analysis, Book II*: p.1.	Mental terminology.
Brown.	*Analysis, Book II*: p.37.	Causation as fictive.
Locke.	*Analysis, Book II*: p.88.	States of mind in sensing.
Locke.	*Analysis, Book II*: p.90.	Privative terms.
Locke.	*Analysis, Book II*: p.98.	Mixed modal ideas.
Reid.	*Analysis, Book II*: p.104.	Memory and time.
Harris.	*Analysis, Book II*: p.109-115.	Time.
Aristotle, Themistius.	*Analysis, Book II*: p.115 n.	Time.
Reid, Harris.	*Analysis, Book II*: p.116.	Time.
Berkeley.	*Analysis, Book II*: p.117 n.	Time and abstraction.
Locke.	*Analysis, Book II*: p.136.	Reflection.
Richard Whately	*Analysis, Book II*: p.141.	Simple principles.
Archibald Alison.	*Analysis, Book II*: pp.192-208.	Taste and pleasure.
Althelme Richerand.	*Analysis, Book II*: p.263.	Unconsciousness and constant impressions.
Zachary Gray, Daniel Turner	*Analysis, Book II*: p.269	Placebos.
Smith.	*Analysis, Book II*: p.270.	Associations of pain.
Stewart.	*Analysis, Book II*: p.277.	Relation of muscular action to sense and idea.
Reid.	*Analysis, Book II*: pp.278-279.	Objects of will and volition.

3.3.6 Hamilton

The set of icons called upon in Hamilton's *Lectures* is an outlier among the several sets being examined in this section. It would be a daunting task to catalog the citations scattered throughout the work, as Table 3.8 attempts to demonstrate. In Hamilton's first three lectures alone (out of 46 in total), he cites more figures than in any other author's single text. A similar pattern persists through the rest of the work. Even more breathtaking is the range of these citations. Hamilton's citation pattern almost suggests an attempt to register all opinions ever raised on a given topic. His attention moves from classical Greek and Roman authors of varying degrees of obscurity, to medieval Scholastics, to British, French, and German figures from the seventeenth century forward to his own day. Given the restricted subject matter of the introductory lectures from which this sample is culled, it would be difficult to further identify patterns of inclusion and exclusion by topic. Two other brief points are worth registering though: One is that this iconic pattern is specific to a set of oral university lectures, while the others we have seen are from popular treatises. It is less incongruous when compared to the pattern in Brown's *Lectures* – which displays a much greater citation density than his *Sketch*. Such divergences may be characteristic of audience expectation (or expectations by the author of the audience) in the developing academic culture of philosophy. Second, Hamilton continued the practice of excerpting from the work of others we saw in Mill. The scope of such excerpts ranges from brief quotation of poets (used as informed opinion on a given topic) to extraction of entire passages on physiology.[71]

[71] Hamilton's sources for these latter excerpts were apparently Dr. Thomas Young's *Lectures on Natural Philosophy* [1807], and John Bostock's *An Elementary System of Physiology* [1825-1828/1836/1844]. His editors note that they have excluded these excerpts from the corpus of lectures as printed posthumously. This demonstrates another danger inherent in using the textual artifact as representative of an intended conceptual system.

Table 3.8: Icons in Lectures I through III of Hamilton's *Lectures*

ICON(S)	REFERENCE	TOPIC
Friedrich Schelling	*Lectures*: p.5.	"Bread and Butter Sciences."
Seneca.	*Lectures*: p.7.	Insignificance of known truths.
Virgil.	*Lectures*: p.7.	Folly of attempting to obtain total knowledge.
Blaise Pascal.	*Lectures*: p.7.	Humanity as seeking.
Pascal.	*Lectures*: p.8.	Search for truth.
Manilius, Alexander Pope.	*Lectures*: p.8.	Orientation to future.
Pythagoras, Cicero, Plato, Matthew Prior, Aristotle.	*Lectures*: p.8.	Search for truth.
Aristotle, Aquinas, Duns Scotus, Malebranche, Lessing, Von Müller, Jean Paul Richter.	*Lectures*: p.9.	Philosophy as activity.
Burke.	*Lectures*: p.10.	Introspection.
Francis Bacon.	*Lectures*: p.13	Cultivation of the higher faculties in man.
Aristotle.	*Lectures*: p.14.	Utility.
Favorinus.	*Lectures*: p.17.	Greatness of man.
Pope, Thomas Brown.	*Lectures*: p.18	Study of man and mind.
Plato.	*Lectures*: p.21.	Man an intelligence not an organism.
Henry More.	*Lectures*: p.23.	Materialism equals atheism.
Aristotle, Plato.	*Lectures:* p.26.	Wonder.
Newton, Laplace, Copernicus, Kepler, Gassendi.	*Lectures*: p.26	Astronomy.
Hartley, E. Darwin, Condillac, Bonnet.	*Lectures*: p.27	Problem of mind greater than that of astronomy.
Plato, Kant, Jacobi, Reid.	*Lectures*: pp.27-29	Importance of problem of mind.
Aristotle.	*Lectures*: p.32.	Belief precedes learning.
Pythagoras, Cicero, Heraclides Ponticus, Diogenes Laertius, Sosicrates, Hericlides, Sophists, Heroditus, Quintilian, Epictetus.	*Lectures*: pp.32-35.	Origin of term 'philosophy.'
Campbell	*Lectures*: p.35.	Association of philosophy with pride.

Hobbes, Leibniz, Wolff, Kant, Decartes, Condillac, Fichte, Schelling, Hegel.	*Lectures*: pp.35-36.	What is philosophy?
Aristotle, Ammonius Hermiæ, Cramer, Pythagoras, Plato, Homer, Galen, Le Clerc.	*Lectures:* pp.36-40.	Ancient definitions of philosophy.
Bacon, Wolff, Aristotle.	*Lectures:* p.41.	Knowledges (causal, factual, *etc.*).
Protagoras, Boethius.	*Lectures:* p.43.	Man the measure of all things.
Cousin.	*Lectures:* p.44.	Departments of philosophy.
Hegel, Aristotle.		British corruptions of the term 'philosophy.'

3.3.7 Bain

Bain's work too exhibits an increase in iconic citation over that of previous generations, but in a very directed manner. Bain retains the sparse set of iconic figures in the study of mind that was established by Brown and Mill. These are restricted largely to the introductory matter of each of Bain's four books within the two-volume corpus of *The Senses and the Intellect* and *The Emotions and the Will*. Further, he adds to this set a long list of informants on specific matters of fact – in effect, expert witnesses to particular observations. These expert icons appear in highest density in the physiological portions of Bain's work, often in conjunction with extended excerpts from the cited text. Many such authors – who, it will emerge, are often personal associates of Bain (see section 3.4) – are cited repeatedly. New appropriate experts appear with each new subject – the nervous system, the senses, elocution, linguistic structure, classification practices, *etc.* Overall, the pattern is toward citation of 'data' – practical evidence – rather than argument. Even the poets cited by Bain are referenced as exhibiting linguistic practice rather than for their substantive statements as poetry (as would have been the expected case in Hamilton's work). The direct comparison of Hamilton and Bain in terms of their icons suggests two men living in distinct social and professional milieus.

Table 3.9: Icons in Bain's *The Senses and the Intellect*

ICON(S)	REFERENCE	TOPIC
Newton/Newtonians	*S&I*: p.3.	Observation of phenomena.
Thomas Reid, Thomas Brown, Dugald Stewart, J.D. Morell, Friedrich Beneke, William Sharpey, Jones Quain.	*S&I*: pp.6-8.	Division of mental phenomena.
Sharpey, Quain, Charles Bell, William Carpenter, Robert B. Todd, William Bowman.	*S&I*: pp.11-50.	Brain physiology.
Sharpey, Quain.	*S&I*: p.68.	Muscle tissue.
Bowman.	*S&I*: p.69 *ff*.	Muscle fibers.
Sharpey.	*S&I*: pp.85-86.	Muscular sensibility.
Sir William Hamilton.	*S&I*: p.117 n.	Locomotive faculty vs. muscle sense.
Todd, Bowman.	*S&I*: p.120; p.130; p.135.	Muscle sense. Heat and cold. Nutritive sensation.
Quain.	*S&I*: p.136.	Digestion.
Todd, Bowman.	*S&I*: p.141.	Mechanisms of disgust.
Wagner.	*S&I*: p.144.	Intestines.
Michael Faraday, BAAS.	*S&I*: p.146.	Electrical sensation.
Reichenbach.	*S&I*: p.147.	Magnetism.
Braid.	*S&I*: p.147.	Mental states.
Gregory, Gmelin.	*S&I*: p.149.	Organic chemistry and tastes.
Quain, Todd, Bowman.	*S&I*: p.150 *ff*.	Papillae of tongue.
Gmelin, Longet.	*S&I*: pp.157-158.	Tastes.
Gmelin, Gregory, Graham, Bunsen, Longet, Linnaeus, Cabanis.	*S&I*: pp.159-170.	Smells.
Todd, Bowman, Quain, Sharpey, Carpenter.	*S&I*: pp.171-195.	Touch.
Toynbee, Quain, Todd, Bowman, Wollaston, Müller, Wheatstone.	*S&I*: p.195-213.	Hearing.
Quain, Wharton Jones, Soemmering, Todd, Bowman, Jacob, Crampton, Sharpey, Volkmann, Müller, Hamilton, Wheatstone, Daguerre, Newton.	*S&I*: pp.213-248.	Sight.
Müller.	*S&I*: p.252.	Hunger.

Carpenter.	*S&I*: p.259.	Sensori-motor response.
Müller.	*S&I*: pp.264-275.	Muscular movement.
C.Bell, Quain.	*S&I*: pp.275-288.	Facial expressions.
Müller.	*S&I*: pp.289-292.	Spontaneity and volition.
Jean Buridan.	*S&I*: p.290.	Balancing of stimuli.
Thomas Reid.	*S&I*: pp.292-293.	Instinctiveness of voluntary motion.
Quain.	*S&I*: pp.299-303.	Vocal anatomy.
Müller, Willis.	*S&I*: pp.304-305.	Simulation of the voice.
Alexander Melville Bell, Carpenter, Kempelen, Arnott.	*S&I*: pp.307-309.	Articulation and elocution.
Stewart, Reid, Hamilton.	*S&I*: pp.316-317.	Habit.
Aristotle.	*S&I*: p.317.	Association.
Hamilton.	*S&I*: p.318.	Contiguity.
Carpenter.	*S&I*: p.326.	Association as growth or connectivity of brain cells.
Müller, E. Darwin, Spinoza.	*S&I*: p.335.	Sensory associations.
Braid.	*S&I*: p.336.	Mimicking of sensation.
Hamilton.	*S&I*: p.368.	Against extension as formed by associations of touch and sight.
Reichenbach, Samuel Bailey, Samuel Johnson, George Berkeley, James Mill, Wheatstone.	*S&I*: pp.370-379.	Perception of a material world.
Reid.	*S&I*: p.380 n.	Vision and distance.
Wheatstone.	*S&I*: p.382.	Solidity.
Sir David Brewster, “Dr. Serres of Paris.”	*S&I*: p.384.	Line of sight.
Braid.	*S&I*: p.386.	Mesmerism and association.
Hamilton.	*S&I*: p.392 n.	Inverse nature of subjective sensation and objective perception.
Archibald Alison.	*S&I*: pp.398-401.	Beauty.
Reid.	*S&I*: p.402.	Instinctiveness of voluntary motion.
Euclid.	*S&I*: p.437.	Geometry.
Hamilton, Aristotle.	*S&I*: p.451.	Similarity, Resemblance, Repetition.
Humphrey Davy.	*S&I*: p.494-495.	Chemistry forwarded by intellectual associations of resemblance.
Linneaus.	*S&I*: p.496.	Classification of flowers.
Goethe, Oken.	*S&I*: p.497.	Plants and flowers.
Owen	*S&I*: p.498.	Similarity of back and head

		bones.
Plutarch, Charles Knight, George Grote.	*S&I*: p.504.	Parallels in history.
Aristotle, Vico, Montesquieu, Condorcet, Millar, J. Mill.	*S&I*: p.507.	Comparison of social and political institutions.
Priestley.	*S&I*: p.508.	Combustion and rust.
Newton, Bacon.	*S&I*: p.511.	Similarity and "Law."
Kepler.	*S&I*: p.517.	Induction yielding geometrical relations.
Black.	*S&I*: p.518.	Latent heat.
J.S. Mill.	*S&I*: p.520.	Logic and method.
Benjamin Franklin.	*S&I*: p.522.	Thunder and lightning.
Aristotle, Hooke.	*S&I*: p.524.	Analogies.
James Watt.	*S&I*: p.525.	Steam engines.
Burke, Milton.	*S&I*: p.530.	Oratory.
Bacon.	*S&I*: p.532.	Illustrative comparison.
Chaucer, Milton, Shakespeare, Burke, Homer, Aeschylus.	*S&I*: p.533 *ff.*	Literary genius.
Michelangelo.	*S&I*: p.536.	Intellectual suggestion in art.
Johnson.	*S&I*: p.555.	Cliché.
Newton.	*S&I*: p.556.	Associative leaps.
Burke.	*S&I*: p.558.	Association from emotional character.
Aristotle.	*S&I*: p.565.	Contrariety.
Franklin.	*S&I*: p.571.	Electricity and constructive association.
Southey.	*S&I*: p.576.	Poetry and constructive association.
Hobbes.	*S&I*: p.582.	"Mountain of gold" example of construction in vision.
Michelet, Grote.	*S&I*: pp.586-587.	Special emotional affinities.
Milton.	*S&I*: p.589.	Concreting the abstract.
Carlyle.	*S&I*: p.591.	Evocative description.
Napoleon.	*S&I*: p.594.	The 'political man' a constructed class.
J.Mill, Stewart.	*S&I*: p.600 n.	Imagination versus science in re: construction.

Table 3.10: Icons in Bain's *The Emotions and the Will*

ICON(S)	REFERENCE	TOPIC
Stewart.	*E&W*: p.2.	Active powers trump intellectual ones.
J.S. Mill.	*E&W*: p.6.	Concomitant variation.
Nicol; Lindley, James Smith; Charles Darwin.	*E&W*: p.23 n.	Classification in, respectively, mineralogy, botany, zoology.
Paley.	*E&W*: p.25.	Pleasure vs. pain.
Grote.	*E&W*: p.48.	Morals in Greek history.
Bacon.	*E&W*: p.49; p.70.	Corruption of science by emotion.
Carlyle, Aristotle, Faraday.	*E&W*: pp.70-71.	Wonder in science and nature.
C. Bell.	*E&W*: p.76.	Expression of fear.
Shakespeare.	*E&W*: p.92.	Pleasure in tragedy.
Hobbes, J. Mill.	*E&W*: p.110.	Family.
Kitto.	*E&W*: p.123 n.	Deafness in re: sublimity.
Wordsworth.	*E&W*: p.123 n.	Nature as "clothed with being."
Stewart.	*E&W*: p.145 n.	Emotion of power.
Chalmers.	*E&W*: p.177.	The "inherent misery of the vicious affections."
Dickens.	*E&W*: p.179.	Irascibility of character, Quilp, in *The Old Curiosity Shop.*
Michelet.	*E&W*: p.179 n.	Execution of Robespierre.
Edward Young	*E&W*: p.179 n.	Poetic treatment of revenge.
Bible (*Job*)	*E&W*: p.192.	Interest amongst monotony.
Tennyson.	*E&W*: p.194 n.	Pursuit as emotional.
Dalton.	*E&W*: p.201.	Discovery, atomic theory.
J. Mill.	*E&W*: p.201 n.	Classification.
J. Mill, Howard, Bentham.	*E&W*: p.218.	Philanthropy and sympathy.
Johnson.	*E&W*: p.230 n.	Definition of genius.
James F. Johnston.	*E&W*: p.235-236.	Mental effect of narcotics.
Sterne, Byron, Wordsworth, Southey.	*E&W*: p.246.	Sentiment in literature.
Stewart.	*E&W*: p.250 n., 254 n., 256 n.	Aesthetics.
Burke.	*E&W*: p.257 n.	Aesthetics, taste.
Stewart.	*E&W*: p.276 n.	Aesthetics, sublimity.
Ruskin.	*E&W*: p.278.	Art criticism.
Hobbes.	*E&W*: p.288 *ff*.	Society and morality.
Stewart.	*E&W*: p.288 n.	Moral sense.
Whewell.	*E&W*: pp.291-298.	Moral sense.
Smith.	*E&W*: p.302.	Moral sentiments.
Bentham, Paley.	*E&W*: p.303 n.	Utilitarianism.
J. Mill.	*E&W*: pp.306-307; p.314 n.	Utility and morality.
John Austin.	*E&W*: p.322 n.	Duty.

Wardlaw, Butler, Stewart, Cudworth, Mackintosh.	*E&W*: p.323 n.	Ethics and theology.
Appolonious Rhodius.	*E&W*: p.369.	Attention (in *Jason and the Argonauts*).
Chalmers.	*E&W*: p.415.	Altering of emotional bias by intellect.
Braid.	*E&W*: p.434	Will and mesmerism.
Grote.	*E&W*: p.462.	Temperament of Greeks.
Franklin.	*E&W*: p.462 *ff*.	Moral algebra.
Cicero.	*E&W*: p.468.	Virtue.
Herschel, Brown.	*E&W*: p.472-473.	Causation.
Fraser.	*E&W*: p.477 n.	Consciousness embodied.
Goethe.	*E&W*: p.485.	Exemplar of emotional conflict.
Samuel Bailey.	*E&W*: p.541 n.	Motives, law, and political economy.
J.S. Mill.	*E&W*: p.542 n.	Zeno's paradox.
Lord Brougham.	*E&W*: p.566 n.	Moral accountability.
J.S. Mill.	*E&W*: p.587 n.	Method, proof, and belief.
Fleming, Stewart, Hamilton, Hobbes.	*E&W*: pp.600-615.	Consciousness.
Hamilton, Ferrier.	*E&W*: pp.641-645.	Subject and object, cognition and relativity.

3.3.8 Synopsis

This section has been too brief to do more than advertise a few trends evident in a wealth of data on iconic structure within my set of texts. A thorough survey would develop the directions I have indicated by attending closely to the valence, subject, extent, and intended relevance of the several sets of icons; then provide a more systematic treatment of trends by introducing further comparisons. Documenting transitions and patterns in citation practice more clearly could be revealing on a number of fronts: First, it could provide a test of contentions we saw in chapter 2 about the role of texts and icons in the special disciplinary institutions of science and philosophy.[72] For

[72] Kuhn (section 2.1), Macintyre (section 2.2.4), Cunningham (2.4.3), and Collins (section 2.4.5) all suggest that part of the distinction between science and philosophy is bound up in differential attitudes towards their own history and the role of personal authority in that history. If science can be partly characterized by a ritual forgetting of the past (Kuhn), or philosophy accentuates its origins and a perennial problematic (Macintyre), or natural philosophy secularized becomes science (Cunningham), or science emerges as a 'rapid discovery machine' (Collins), evidence from iconic structures should help to discern such patterns.

example, if the iconic structures apparent in Bain and Hamilton are indicative of an incipient split between a 'scientific' culture on Bain's side and a 'philosophical' culture on Hamilton's, we should be able to make further sense of this split by closer comparative analysis. Second, of course, direct iconic reference is one marker of the activity of intellectual communities. While certainly only one among many modes of tracing a discourse, citation does help establish connections for further elaboration of the tradition.[73] Third, and relatedly, we may be able to map iconic patterns onto particular expected audiences for the work – as with Hume's connection to polite society, and Hartley's to Christian enthusiasm – thereby enriching our understanding of secondary affinities of these intellectual traditions. Fourth, the cursory examination here calls into question *post facto* discussions of 'Newtonian' and 'Baconian' iconic traditions.[74] Fifth, another similar issue can be traced by examining the iconic reputations of the figures *in* my selected group; in other words, how do later figures refer to earlier ones?[75] Sixth,

[73] Lack of an explicit reference, for example, leaves open the possibility of implicit reference or assumed influences understood to be obvious to the target audience in context (or of local *codes* for registering influence).

[74] The eighteenth century figures under consideration here – Hume, Hartley, and Reid – have all variously been characterized as Newtonian or Baconian, either in practice or in rhetorical affiliation. For example, we might consider Hartley *non*-Newtonian in projecting unobservable particles (vibrations) and arguing for hypotheses on the basis of explanatory power rather than evidence. [Walls, 1982] The same accusations could be made of Hume regarding the power of sympathy, but he is more often characterized as attempting to extend Newton's program to the problem of human nature. Too, Hartley might also be called the ultimate Newtonian in following the master in alchemical and mystical matters as well as in natural philosophical methodology. Certainly, Hartley references Newton far more than his other contemporaries, and in wider regard – as we have already seen: the single explicit reference to Newton in Hume's *Treatise* is an allusion to "Newtonian philosophy" in the Appendix that Hume added to indicate desirable revisions to the original text [*Treatise,* p.639], and Reid makes several references to Newton, but only to method. Further, rather than considering Reid as primarily a Newtonian thinker, Harris [2003] characterizes him as propounding an "extreme form of Baconianism." It would be impossible here to trace and analyze Newton's record as icon within these several communities, but it is a good first case for any proposed iconic analysis.

[75] I have noted the relative obscurity of Hume throughout the period as an explicit icon – Brown alone makes him a central figure. In the eighteenth and early nineteenth century, Hume appears as a lightning rod for common sensists and religious apologists (*e.g.*, Boswell) but *not* as an icon for associationists. This situation in the community of intellectuals, however, is already contradicted by the last quarter of the nineteenth century

changing practices of citing and excerpting form part of the history of technical writing.[76] Finally, anticipating the next section, more connection of the data presented here to biographical information (the occupational identity of cited figures and their other relationships with the citing author) would be of value in understanding the dynamics of nineteenth century intellectual networks.

3.4 Genealogical Structures

I am introducing genealogical structure here as similar to Collins' networks of intellectual influence but, on the one hand, narrower in the types of influence accepted and, on the other, more inclusive in the communities explored. Both these differences point to suppositions about the structure of the communities Collins examines. In the former regard, Collins makes assumptions about shared tradition that allow him to introduce evidence of intellectual influence beyond that obvious from personal interaction. Similarly, he introduces positive and negative inflections into his networks according to whether their intellectual interactions of a particular individual are cordial or conflictive. In the latter regard, he restricts his networking analysis to within fairly circumscribed intellectual bounds. Thus, the relationships he traces run from – for example – philosopher to philosopher, while ignoring the connections that might exist between a philosopher and, say, a chemist.

My development here will be more restrictive in the first sense and more open in the latter. I will consider only direct personal associations that existed between the figures under discussion and their predecessors, contemporaries, and successors. However, I will make no distinctions in these associations among figures from various backgrounds, but will instead take personal relationships as all on a par with one another in their possible influence on the thinkers involved.

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by admonitions that we not neglect the work of Hartley and Reid in favor of an exclusive admiration of Hume [Robertson, 1877, pp.358-359]. How this reversal of fortune came to pass is a matter for further investigation.

[76] Excerpting appears to be as characteristic a practice of the mid-nineteenth century as was sweeping allusion to icons (the figure as representing a given view) in the eighteenth century. To begin a consideration of problems of this kind, one might see Grafton [1999].

As a final introductory note, I should also advertise the conspicuous dependence of this kind of analysis on available biographical information. This is perhaps the salient weakness of my initial treatment – although I maintain that my evidence is still enough to raise serious doubts about Collins' project. The lives and personal associations of some of the subjects of my study – Hume, for example – are well documented, but others are more shadowy. The prospect of unearthing necessary information for these others is made brighter by the writing culture of the eighteenth and nineteenth centuries; the prevalence of correspondence, and of biographical and autobiographical activity, makes the problem of reconstructing genealogical structures – in my sense – easier. However, much further research is required for a comprehensive comparison. As a result, my conclusions in this section will be largely negative in character, identifying salient problems and concerns more than presenting a definitive portrait.

3.4.1 Hume

An initial listing of Hume's important associates is given in Table 3.11. It shows Hume embedded in an extensive intellectual-genealogical network that largely matches that identified by Collins [1999] but is more inclusive. Hume's primary genealogical affinities appear to be with 'first-generation Newtonianism', with French salon culture, and with an insular Scottish intellectual community. The Newtonian heritage was transmitted to Hume by a group of Edinburgh professors, styling themselves the 'Rankenian Club,' who served as his primary instructors. The influence of Hume's time in France, both early and later in his career, is evident in a series of personal and corresponding interactions with prominent figures in the French Enlightenment. Hume is alone among my subjects in these extensive connections with French culture, which also appear allusively in his writing. Finally, among his Scottish contemporaries, Hume maintained an extensive correspondence and participated in several of Edinburgh's more prominent natural philosophical clubs. His associates, by and large, were 'men of letters' – literary practitioners of one stripe or another – whatever else their formal occupation may also have been.

Table 3.11: Figures in Hume's Intellectual Genealogy[77]

ASSOCIATED INDIVIDUAL or ORGANIZATION	OCCUPATION(S)	RELATIONSHIP
Robert Wallace*	Professor	Teacher (Edinburgh)
Laurence Dundas*	Professor	Teacher (Edinburgh)
William Scot*	Professor	Teacher (Edinburgh)
Colin Drummond*	Professor	Teacher (Edinburgh)
Robert Stewart*	Professor	Teacher (Edinburgh)
James Gregory*	Professor	Teacher (Edinburgh)
William Law*	Professor	Teacher (Edinburgh)
Charles Mackie*	Professor	Teacher (Edinburgh)
Henry Home, Lord Kames	Aristocrat, Writer	Friend, Relative
Adam Ferguson	Writer	Friend, Colleague
P-H Thiry, Baron d'Holbach	Writer	Correspondent
Thomas Reid	Minister, Professor, Writer	Correspondent
Charles de Secondat, Baron de la Brède et de Montesquieu	Writer	Correspondent
Francis Hutcheson	Professor, Writer	Correspondent
Adam Smith	Economist	Friend
Edward Gibbon	Historian	Friend
Jean-Jacques Rousseau	Polymath	Friend
A-R-J Turgot	Economist, Writer	Friend
F-J de Beauvoir, Marquis de Chastellux	Soldier, Writer	Friend
Denis Diderot	Writer, Encyclopedist	Friend
Jean-le-Rond D'Alembert	Writer, Encyclopedist, Mathematician	Friend
Duclos	Writer	Friend
Helvétius	Writer	Friend
Madame de Bouffiers	Aristocrat, Salon Hostess	Friend
Allan Ramsay	Painter	Friend
Philosophical Society of Edinburgh	--	Member
Select Society	--	Member
Poker Club	--	Member

* Members of the so-called "Rankenian Club" of Edinburgh.

[77] Biographical information obtained from McCosh [1875], and Mossner [1980].

3.4.2 Hartley

Though a close contemporary of Hume's, David Hartley's pattern of personal associations – his genealogy as an intellectual in society – appears quite different. While exposed to 'first generation Newtonianism' in his Cambridge years to an equal extent as Hume at Edinburgh, his later social life followed a different path. Hartley's main associates can be found in medical, religious, and natural philosophical circles. As a practicing physician, he corresponded or interacted with his professional associates in the course of business. This affiliation also put him in touch with a variety of apothecaries, medical chemists, and surgeons. His dissenting religious beliefs led to another strong set of associations with like-minded figures, who we might also identify as the core audience for whom Hartley wrote. The affinity between intellectual inquiry and theological doctrine of the period is reflected in some of the societies of which Hartley was a member – the Society for the Advancement of Learning and the Society for the Promotion of Christian Knowledge. His other conspicuous organizational association – the prestigious and central Royal Society of London – places him in the midst of the natural philosophical discussions of the day.

These several networks of influence suggest, for Hartley, the archetypal character of a 'Christian virtuoso' – as viable a social identity of the day as was Hume's image as 'man of letters' in polite society, but one quite distinct from it. We might also note that Hartley's genealogical pattern (see Table 3.12) appears to correlate well with aspects of other structures; the concepts he uses, the form of his text, and the icons he cites all reflect a figure embedded in Newtonianism of all stripes (natural philosophical, physiological, religious, alchemical, *etc*.) as well as in the radical religious trends of the Enlightenment.

Table 3.12: Figures in Hartley's Intellectual Genealogy[78]

ASSOCIATED INDIVIDUAL or ORGANIZATION	OCCUPATION(S)	RELATIONSHIP
John Warham	Tutor	Teacher (Cambridge).
William Whiston	Lecturer	Teacher.
Nicholas Saunderson	Professor (Lucasian Chair)	Teacher (Cambridge).
Robert Smith	Physician, Researcher.	Friend, Correspondent.
John Byrom	Shorthand advocate.	Correspondent.
James Jurin	Physician.	Correspondent.
John Lister	Reverend.	Friend, Correspondent.
Stephen Hales	Vicar, Chemist, Botanist, *etc*.	Correspondent.
Joanna Stephens	Purveyor of medicines.	Colleague.
Joseph Butler.	Bishop.	Friend, Correspondent.
William Cheseldon	Surgeon.	Friend, Colleague.
Archibald Campbell	Professor (St.Andrews).	Colleague.
Thomas Bayes	Reverend, Mathematician.	Friend(?).
George Cheyne	Physician.	Friend.
Joseph Priestley	Teacher, Dissenter, Chemist.	Correspondent. Disciple.
Benjamin Rush	Physician.	Disciple.
Royal Society of London	--	Member.
Society for the Encouragement of Learning	--	Member.
Society for the Promotion of Christian Knowledge.	--	Member.

3.4.3 Reid

Thomas Reid's position in the intellectual networks of the eighteenth century provides for him as solid an identity as natural philosopher as David Hartley's, but from quite different sources. Educated, again with a strong basis in the new natural philosophy, at Aberdeen, he was also exposed to some of the same Cantabrigian thought as Hartley.[79] The vast majority of his later associates, though, come from Scottish academic and religious circles (which, of course, overlapped significantly in the period in question). As minister and professor within the official Scottish systems, Reid

[78] Biographical information obtained from Hartley [1775/1973], Oberg [1976], Webb [1988], and Allen [1999].

[79] Biographical weakness here: I am unable to locate confirmation of Reid's relationship with Bentley and Saunderson shown in Table 3.13. I am confident of some connection between Reid and the Cambridge community, but it may be less direct than indicated here.

participated in an intellectual community that was active in the philosophical debates of the day.[80] Moreover, he was one of the leaders of this community (the 'fittest man in Scotland' for his professorial position at Glasgow) and the founder of a school of thought within it; he and his personal associates formed an inner circle within the Scottish intellectual community, significantly influencing its course. Reid's close attention to the work of Hume was fostered by his affiliation with the 'Aberdeen Circle' or 'Wise Club' that met weekly to discuss philosophical issues. Reid – along with his Wise Club colleagues, Beattie, Gregory, Campbell, and Gerard – considered Hume's work in detail. Reid was, of them all, the one who looked most favorably, if critically, on Hume's contribution (on the evidence of his texts).

Table 3.13: Figures in Reid's Intellectual Genealogy[81]

ASSOCIATED INDIVIDUAL or ORGANIZATION	**OCCUPATION(S)**	**RELATIONSHIP**
George Turnbull	Professor	Teacher (Aberdeen)
Thomas Blackwell	Professor	Teacher (Aberdeen)
Richard Bentley	Theologian, Professor	Teacher? (Cambridge)
Nicholas Saunderson	Professor	Teacher? (Cambridge)
James Beattie	Professor	Friend, Colleague
James Gregory	Professor	Friend, Colleague
George Campbell	Professor	Friend, Colleague
Alexander Gerard	Professor	Friend, Colleague
David Gregory	Professor	Cousin, Colleague
David Hume	Writer, Statesman	Correspondent
Henry Home, Lord Kames	Aristocrat, Writer	Correspondent
William Ogilvie	Professor	Correspondent
Dugald Stewart	Professor	Student, Protegé, Correspondent
James Oswald	Minister	Friend
"Wise Club"	--	Member
"Aberdeen Circle"	--	Member

[80] Contrast with Hume, who tried twice and failed to gain membership in the Scottish academy.

[81] Biographical information obtained from Brody [1969], Lehrer [1989], Yolton *et al.* [1999], and Harris [2003].

3.4.4 Brown

Two intellectual generations later than the three figures already surveyed in this section, Thomas Brown's patterns of social engagement reflect changes in British culture between the mid-eighteenth and the early nineteenth centuries. The student of Reid's own student, Dugald Stewart, Brown was educated at Edinburgh (beginning 1792) in a curriculum that incorporated new chemistry and mathematics in addition to the philosophical inheritance of the preceding century. Beginning in law but ending in medicine, Brown then took on a medical practice before entering into academia as professor of philosophy at his alma mater, replacing Stewart. Brown was also an essayist and poet, and a prominent early contributor to the prominent *Edinburgh Review*. He died of a chronic illness in 1820 at the age of 42.

Brown's known associates are eclectic in their occupations, but all share a common relationship to Edinburgh and its university. If anything, Brown's social circles, and his own life pattern, suggest diversification of the Scottish intelligentsia; in his own career, and in his associations with others, he encountered a variety of emerging specialist enterprises that nonetheless retained a certain coherence through institutional affiliations – with the University of Edinburgh, with the *Edinburgh Review, etc.* Among his teachers, his colleagues, and his students, no other patterns are apparent at first glance. This, Brown's short lifespan, and the relative dearth of detailed biographical information on Brown, make trends in his intellectual genealogy difficult to assess – Brown's social identity is, on the evidence of Table 3.14, harder to locate than those of Hume, Hartley, and Reid.

Table 3.14: Figures in Brown's Intellectual Genealogy[82]

ASSOCIATED INDIVIDUAL or ORGANIZATION	OCCUPATION(S)	RELATIONSHIP
Dugald Stewart	Professor	Teacher (Edinburgh)
James Finlayson	Minister, Professor	Teacher (Edinburgh)
John Robison	Professor	Teacher (Edinburgh)
John Playfair	Professor, Mathematician	Teacher (Edinburgh)
Joseph Black	Professor, Chemist	Teacher (Edinburgh)
James Gregory, III	Physician	Mentor
John Leslie	Professor	Colleague
Henry, Lord Brougham	Aristocrat, Journalist, Politician	Friend, Colleague
Francis Horner	Politician, Economist, Journalist.	Friend, Colleague
Francis, Lord Jeffrey	Lawyer, Critic, Editor.	Friend, Colleague
Sidney Smith	Minister, Writer.	Friend, Colleague
James Reddie	Writer.	Friend, Colleague
John Leyden	Orientalist.	Friend, Colleague
John Erskine	Minister, Writer	Friend, Colleague
Sir Walter Scott	Writer	Friend.
Sir James Mackintosh	Publicist, Politician	Friend.
David Welsh	Minister, Writer	Friend.
James McCosh	Professor	Protegé
J.D. Morell	Psychologist	Protegé

3.4.5 Mill

James Mill emerged from the same Edinburgh environment as did Brown, entering the university there some few years prior to him, and having a largely overlapping set of instructors there. They also shared some associates from this period, and both participated to a degree in the same Scottish academic-religious community that Reid had led twenty or thirty years before. Mill briefly took on a parish in the Church of Scotland, before moving on to work as a writer and civil servant in England. He also contributed to the *Edinburgh Review* and maintained relationships with its other contributors, although there is no evidence that Mill and Brown were directed associated.

From that point the genealogical paths of Mill and Brown diverge, with Mill's secular career in London and India drawing him into association, most conspicuously,

[82] Biographical information obtained from McCosh [1875], Robinson [1976/1995], and Davie [2001]

with radical political circles. In this latter half of his life, Mill's intellectual identity begins to emerge as distinct, constituted by his relationships with political economists such as Ricardo, the circle of reform advocates around Jeremy Bentham, and the younger contemporaries and successors who made up the founding circle of the radical *Westminster Review*. On the periphery of these central commitments, the same professional eclecticism observed among Brown's colleagues in Edinburgh is evident among Mill's in London – chemists, economists, historians, and clergymen all being represented.

Table 3.15: Figures in Mill's Intellectual Genealogy[83]

ASSOCIATED INDIVIDUAL or ORGANIZATION	OCCUPATION(S)	RELATIONSHIP
Dugald Stewart	Professor	Teacher (Edinburgh)
James Finlayson	Professor	Teacher (Edinburgh)
Andrew Dalziel	Professor	Teacher (Edinburgh)
John Robison	Professor	Teacher (Edinburgh)
Andrew Hunter	Professor, Minister	Teacher (Edinburgh)
Thomas Hardie	Professor, Minister	Teacher (Edinburgh)
Thomas M'Crie	Minister	Friend
John Leyden	Orientalist, Writer	Friend
Thomas Thompson	Chemist, Minister	Friend
Sir David Brewster	Physicist	Friend
William Wallace	Mathematician, Professor	Friend
Henry, Lord Brougham	Aristocrat, Politician, Writer	Friend
George, 7th Marquis of Tweeddale	Aristocrat	Employer
Jeremy Bentham	Writer, Reformer	Mentor
Jean-Baptiste Say	Economist	Correspondent
Thomas Ricardo	Economist	Friend, Colleague
James Thompson	Minister	Friend
Robert Bisset	Writer	Friend
John Gifford	Writer	Friend
James Ramsay MacCulloch	Economist, Journalist, Professor	Friend
General Francisco de Miranda	Soldier, Revolutionary	Friend
William Allen	Chemist	Friend
George Grote	Historian, Writer	Friend
John Stuart Mill	Writer, Economist, Reformer	Son, Protegé

[83] Biographical information obtained from Bain [1882a], McCosh [1875], Halévy [1955], and Ripoli [1998].

3.4.6 Hamilton

Perhaps the clearest genealogical position of any figure in this study can be identified for Sir William Hamilton.[84] Son of a professor at the University of Glasgow, he was taught there himself, followed by periods of study at Edinburgh (medicine) and at Balliol College, Oxford (classics and philosophy). He then established himself within the same Scottish university community as professor at Edinburgh, holding several positions there from 1821 forward. His known personal associates are all academic mentors, colleagues or students, as shown in Table 3.16. This same table includes also less direct relationships with a handful of writers – de Quincey, J.S. Mill, Forbes – with whom Hamilton carried on intellectual rivalries and may have corresponded.

Hamilton nearly complete absorption within a professional academic community is singular among my set of subjects – being most closely mirrored by Reid, founder of the school of which Hamilton was the last significant figure. This insular identity as 'professor of philosophy', in parallel with patterns also observed in Hamilton's iconic, conceptual, and textual structures is perhaps indicative of the onset of disciplinary character in the pursuit of philosophy. That is, indicators in several structural regimes seem to identify Hamilton as singular within my selected group, and suggest further work on his career would generate interesting results. However, at present, Hamilton's biographical details are also among the murkiest in this group, and further study on this subject is required. I suggest, though, that more study of Hamilton's career in Scottish education would illuminate the divergence of science and philosophy in nineteenth century Britain – with Hamilton emerging as a prime exemplar of philosophy as emerging professionalized discipline.

[84] Note in clarification: There have been many William Hamiltons participating in British intellectual culture over the past several centuries. Our subject – Sir William Hamilton, 9th Baronet of Preston and Professor at the University of Edinburgh [1788-1856] – must be distinguished especially from his near contemporary, the Irish mathematician and developer of the quaternion nomenclature, William Rowan Hamilton [1805-1865].

Table 3.16: Figures in Hamilton's Intellectual Genealogy[85]

ASSOCIATED INDIVIDUAL or ORGANIZATION	OCCUPATION(S)	RELATIONSHIP
Thomas Hamilton	Professor, Physician	Father
George Jardine	Professor	Teacher (Glasgow)
James Mylne	Minister, Professor	Teacher (Glasgow)
Dugald Stewart	Professor	Colleague
James Ferrier	Professor	Colleague
Thomas de Quincey	Writer	Commentator, Friend?
John Stuart Mill	Writer, Economist, Reformer	Commentator
J.D. Forbes	Professor	Commentator
John Stuart Blackie	Professor	Colleague
Duncan Gregory	Professor	Colleague
Robert Selkirk Scott	Professor	Protegé, Assistant
Thomas Spencer Baynes	Professor	Protegé, Assistant
Henry Longueville Mansel	Minister, Philosopher	Protegé, Editor
Henry Calderwood	Minister, Philosopher	Protegé
John Veitch	Professor	Editor
James Clerk Maxwell	Physicist	Student

3.4.7 Bain

If Hamilton's genealogical position falls squarely within the boundaries of academic philosophy, Alexander Bain's suggests a much more complicated trajectory. His educational background in Aberdeen was split between Marischal College and the city's Mechanic's Institute.[86] His early career as writer in London placed him in the radical circles of John Stuart Mill and Neil Arnott - and in the pages of the *Westminster Review* – in the 1840's. Later, as professor at Aberdeen, he became a central figure in Scottish education, and founded the journal, *Mind*. His known associates are a typically eclectic assortment similar to those of Thomas Brown or James Mill in the previous generation. Conspicuous among them, though, are a small group of medical practitioners – Sharpey, Carpenter, Kay-Shuttleworth – on whom Bain would rely for physiological

[85] Biographical information obtained from McCosh [1875], Madden [1985], Davie [1961], and Davie [2001].

[86] Marischal later merged with King's College to form the University of Aberdeen. It is unclear whether Bain attended lectures also at King's in his collegiate career. In addition to the direct connections established in Table 3.17, Bain was also exposed to the lectures of Sir William Hamilton in 1841, but apparently heard them delivered by an (unnamed) deputy. [Flesher, 1986, p.69]

expertise in his major works (see also Tables 3.9 and 3.10). This kind of personal influence on how the study of mind was intellectually situated recapitulates a pattern we have seen evident since we began the discussion with Hume at the beginning of this section.

Table 3.17: Figures in Bain's Intellectual Genealogy[87]

ASSOCIATED INDIVIDUAL or ORGANIZATION	OCCUPATION(S)	RELATIONSHIP
Dr. Cruikshank	Professor	Teacher (Marischal)
William Knight	Professor	Teacher (Aberdeen Mech. Inst.)
Principal Tulloch	Professor	Teacher (Marischal)
George Glennie	Professor	Teacher (Marischal)
Allen Thomson	Professor	Teacher (Aberdeen)
Thomas Clark	Professor	Teacher (Aberdeen)
David Masson	Minister	Friend
John Robertson	Journalist	Friend
John Stuart Mill	Writer, Economist, Reformer	Friend, Colleague
Neil Arnott	Physician, Reformer	Friend
George Henry Lewes	Writer	Friend
William Sharpey	Anatomist	Friend
George Lilles Craik	Writer	Friend
James Kay-Shuttleworth	Physician, Reformer	Friend
Edwin Chadwick	Lawyer, Journalist, Reformer	Friend
George Grote	Historian	Friend, Colleague
Auguste Comte	Sociologist	Correspondent
William Carpenter	Physiologist	Colleague
Sydney Smith	Minister, Journalist	Friend
Richard Owen	Naturalist	Friend
Herbert Spencer	Sociologist	Colleague
George Croom Robertson	Professor, Editor	Protegé, Colleague
Aberdeen Philosophy Society	--	Member

[87] Biographical information obtained from Bain [1904], Robinson [1977b], and Flesher [1986].

3.4.8 Synopsis

In beginning to piece together a depiction of the social milieus in which each of my subjects moved, attention to genealogical structure has suggested a significant interaction of personal intellectual associations and other structural variables – conceptual, expository, and iconic. Here, we begin to identify mechanisms of knowledge transfer, social influences on content, overlap between personal and intellectual affiliations, and situated identities of the figures under examination. I have argued that the cross-comparison of this element of intellectual structure with the others in this study can reveal patterns of synergy and interference, thereby strengthening our understanding of the mutual influence of the social on the intellectual. Such interactions among structural elements will be explored further in the next section, which offers a cursory case study of the influence of editorial practice on the propagation of conceptual systems.

I have also tried to cast light on what I take to be a flaw in the methodology Collins [1999] proposes for the identification of key figures in intellectual networks. Collins suggests that an identity as a 'major philosopher' can be discerned by locating figures whose position in such networks forms a high-order nodes (a site with many connections). I take it that Rorty's objection of question-begging (see section 2.4.2) applies to this model, because the figures connected in his networks are only those already assumed to be relevant thinkers. That is, Collins assumes his outcome in constituting his data set. Furthermore, I think he makes an insufficient distinction between the interacting networks formed by 'fictive' iconic structure and 'actual' genealogical structure. As a *reductio* of Collins' method, I submit that the networks of personal interaction outlined in this section demonstrate not only that *every* figure can be considered as representing a high-order node within an intellectual community (or communities), but also that the input of figures Collins would exclude (interactions of a philosopher with an anatomist, for example) have clear relevance for the work being done. If the primary weakness of this section is a lack of comprehensive biographical detail, then a bolstering of the available evidence would only serve to make this point more clear.

3.5 Texts versus Concepts: Editorial Modifications of Hartley and Mill

Section 3.1 treated conceptual systems as free-standing structures, while section 3.2 showed this analysis to be problematic on account of the embeddedness of concepts within texts. Subsequent sections have added elements of claimed and actual intellectual heritage to this mixture, and have emphasized the patterns of interaction that emerge from examining these several structural elements as an emsemble. This section will offer a miniature case study of the interaction of texts and concepts by considering the conceptual changes introduced by new editions of Hartley's *Observations* and Mill's *Analysis*. Hartley's work was published in a second edition, edited by Joseph Priestley, in 1775. This later edition is the one that was most influential and became the 'standard' version, serving as a catalyst to the thought of Coleridge and James Mill among others. James Mill's own work was later re-edited by his son, John Stuart Mill, and a team of the younger Mill's associates including Alexander Bain. This 1869 edition of the *Analysis* attempted to reposition the arguments of the original in light of new information and new institutional circumstances. Both these editorial interventions demonstrate the difficulty of locating a conceptual system outside a broader intellectual tradition. Each shows a different pattern of interaction between concepts and their exposition. I take these to be only particularly striking examples of a general phenomenon also relevant to Hume's different expositions of the science of man, Reid's various concatenated works, Bain's 1870 abridgement of his earlier two-volume treatise, and the many (usually quite similar) multiple editions of Brown, Hamilton, *et al*., that were disseminated in English-speaking schools throughout the nineteenth century.

Priestley, as editor of Hartley's system, excised many of both the religious and the mechanistic affinities of the work, rendering it much more akin to Hume's *Treatise* than it was in original form. The second book of the *Observations*, treating duty and revealed religion, was eliminated entirely from Priestley's edition. Also, the theory of vibrations and vibratiuncles was curtailed, and different references inserted. Priestley himself appended three essays to the 1775 edition, updating details of – respectively - the doctrine of vibrations, the doctrine of association, and the theory of complex and abstract ideas. The end result of these alterations was to reduce the length by some two-thirds; to divorce the theory of associations from the mechanism Hartley found necessary to it; and

to (partially) secularize the overall appearance of Hartley's work. Furthermore, the greater circulation of the later edition complicates the identification of one singular 'Hartleyan conceptual structure'; while the system of the 1748 edition (as detailed in section 3.1.2) was the one actually espoused by Hartley, that remaining in the 1775 edition was the one most likely to be read – and *cited* – by Hartley's nineteenth century commentators.

The process of textual modification in the 1869 edition to Mill's *Analysis* proceeded by a different pattern. Leaving the original text complete, the younger Mill and his associates instead remodeled the work by addition, contributing a preface, footnotes, and addenda (amounting to an extension of the original text by about 25% in length). A complete breakdown of the resulting modifications is impossible here, but even a brief survey indicates differences in conceptual and iconic structure.

In the first vein, we find many proposed changes to the elder Mill's original conceptual scheme in the second edition, usually characterized as stemming from information made available since the 1829 version appeared. While the added notes to this effect do not elide the original formulation, they contradict its authority directly – the 1869 version is very much more a *critical* edition than a reprinting of the earlier one. For example, J.S. Mill – himself the author of a putatively comprehensive logical system – disagreed with his father that the process of ratiocination can be identified with the structure of the Aristotelian syllogism; instead, he offers the view that reasoning is simply a belief in the truth of a given proposition, based on evidential considerations rather than formal linguistic ones. [J.S. Mill in J. Mill, 1868, v.1., p.426 n.] Similar questioning and correction of the text appears throughout the later edition, making the discussion of concepts in section 3.1.5 very much dependent on reference to the original text.

The set of icons deployed by J.S. Mill, as primary editor of the 1868 edition, suggests a process of synthesis also evident in the elder Mill's work. The editorial preface to this second edition pays homage to Thomas Brown as offering significant previous advances in the field of mental analysis. Brown of course, as we have seen, emerged from the Common Sense tradition to provide an alternate model of the mind that reinserted the Associationist basis developed by Hume and Hartley. While the younger Mill here traces this basic notion to a genesis in Aristotle, with Hobbes and Locke as

early modern elaborators, the credit for the formal principle of association is given to Hartley and his mentor, John Gay. Mill characterizes Hume as having effectively usurped the mantle of associationism from these two, with little of his own to contribute. The Hartleyan tradition is traced through Joseph Priestley and Erasmus Darwin to Brown, who J.S. Mill treats – despite Brown's overall importance in the field – as having given a superficial examination of Hartley. The editor attributes the full resuscitation of Hartley to his father, the "second founder" of Associationism. The project established by the 1828 *Analysis* has, in this story, been forwarded in the intervening four decades by Bain and Herbert Spencer, to the point where the true significance of the elder Mill – and through him, Hartley – can now be fully understood. It is this state of affairs, says J.S. Mill, that has demanded a new edition of the *Analysis* in 1868, and which explains the contributions offered by the editorial team. He himself, along with Bain as a psychological specialist, will offer clarifications of theoretical points, while their colleagues George Grote and Andrew Findlater will contribute other focused commentary. Grote, the historian of ancient Greece, adds notes on classical history and philosophy, while Findlater's role is to correct the philology of the first edition, which relied on the outdated interpretations of the linguist Horne Tooke.

While the elder Mill advertised that his treatment of the senses would proceed according to their relative simplicity and familiarity, Bain notes that leading off with the sense of smell offers the added benefit of having a "startling effect" on the reader. [Bain in Mill, 1868, v.1, p.7 n.][88] Bain further counters Mill's suggestion that the order of treatment is entirely immaterial, stating that this is "not a matter of indifference." [*ibid*] He supports this claim by an exposition of two possible hierarchical systems of the senses, one according to their "intellectuality" and the other treating them as "specialised modifications of touch." [Bain in Mill, 1868, v.1., pp.3-6 n] These rankings reflect not only Bain's opinion of the importance of establishing a proper ordering, but also Bain's (rather than Mill's) understanding of the inventory of the senses. Thus, the former, intellectual, hierarchy proceeds as: (1) Organic sensibility; (2) Taste; (3) Smell; (4)

[88] James Mill, too, invests little in defending his organization, saying that the order of explication is "immaterial" to the problem at hand. Bain disagrees, and proceeds to form an argument to that effect.

Touch; (5) Hearing; (6) Sight. The latter hierarchy of tactile specialization is offered in two possible orders, with the ambiguity stemming from uncertainty in the material mechanism of sight. Thus, we might treat these either as: (1) Touch; (2) Hearing; (3) Sight; (4) Taste; (5) Smell; (6) Organic sensibility *or* (1) Touch; (2) Hearing; (3) Taste; (4) Smell; (5) Organic sensibility; (6) Sight. In any case, Bain suggests here that Mill has not only missed the fundamental significance of such ordering, but has performed his ranking in a way that is more rhetorically effective than scientifically applicable.

Overall, the effect of both the 1775 edition of Hartley (modified by Priestley), and the 1869 edition of James Mill (modified by J.S. Mill *et al*.) is to bring the work in line with current understandings and practices. In other words, as a bottom line, both second editions render the original more reliable, more *au courant*, and more 'scientific.' As such they constitute part of the process of disciplinary differentiation that I will address in the next chapter.

3.6 Overview

If I have been successful, this chapter has formulated a significant historical problematic – identifying salient aspects of classical British mental inquiry by investigation of four interacting structural dimensions. This development has its basis in a set of questions and historiographic perspectives laid out in chapter 2. Here, it will be useful to recap some of the important results of the present lengthy chapter and indicate some connections back to this historiographic foundation. These, I believe, justify my initial instinct – noted in chapter 1 – that the tradition I have been studying is, at present, poorly understood and deserves further attention in STS.

Beginning with that instinct, I have maintained a fairly high level of abstraction in this initial survey. Rather than focus immediately upon individual historical details – particular argumentative controversies or closely-situated sequences of events – I have opted to take a broader, more structural view, to examine possibly persistent contextual affinities of the mental scientific enterprise. Thus, my contribution here is not, in any sense, a replacement for the standard methods of philosophy and history of science, but is rather complementary to them. The questions raised in the previous chapter require reference to the sort of structural concerns laid out in my development above, as I have

attempted to show already in the synopses that have ended each section (see 3.1.8, 3.2.8, 3.3.8, and 3.4.8). At the same time, my level of analysis cannot help but miss some of the contingencies that would emerge from more focused investigation of episodes within the problematic I have outlined. To take one example, exclusion of the details of philosophical argumentation allows for the possibility of similar conceptual structures with greatly distinct argumentative bases. This, for example, is the case with Reid and Hamilton. Hamilton's conceptual system falls squarely within the Reidian tradition, while his justifications of this commitment are much more closely akin to German idealism than to previous figures of the Common Sense school. Such differences cannot be made evident within the analytical scheme I have developed here. In the following summary, I will try to keep track of such limitations of my work alongside the modest advances that I have made in sketching the nineteenth century problematic of mental studies.

The first four sections of this chapter described a set of four interacting structural elements making constitutive contributions to inquiry into the mind in my study. Elaboration of the first component – conceptual structure – involved looking for common intellectual traditions, communities of discussion, around identifiable sets of understood terms. I compared, in particular, the early nineteenth century work to the eighteenth century antecedents on which it built. Interesting commonalities emerged between all of the earlier works – those of Hume, Hartley, and Reid – in terms of concepts including simplicity, artificiality, intensity, and activity. The later work of Brown, Mill, Hamilton, and Bain began to indicate a transition in the nineteenth century toward a new structuring concept cluster involving notions of temporality, dynamism, and practice. On the whole, though, this transition proceeded by an incremental reorientation of existing concepts rather than by either injection of new ones or wholesale structural revolution. A rich set of concepts in flux during the period was identified in section 3.1.8, including the position of religion, physiology, and language with respect to the study of mind. For instance, the inclusion of language as a philosophical topic introduced by the social production of knowledge is a persistent feature of inquiry into the mind, missing only from the work of Hume and Bain (who nonetheless leave a space for such discussion in their structures). This interest in language, though, ranged from Hartley's advocacy of

Byrom's universal shorthand through Reid's discussion of expression versus signification to Mill's attention to grammar and etymology and Hamilton's proclivity for terminological systematicity. Thus, while language was a constant partner in mental inquiry, its specific relevance was fluid. The relative stabilities of such recurring concepts within the intellectual tradition as a whole is a matter for further study.

My development in section 3.2 indicated a number of important issues in the domain of textual structure. We saw how the transmission of concepts of the mind in eighteenth and nineteenth century texts was influenced by changes in the audience both over time and between contexts. The evolution of the reading public, and their habits of reading, was significant in the development of the written tradition of inquiry into the mind. So was the distinction between oral lectures on the subject to a university audience and more broadly distributed written works for the popular market. We also saw the complexity of matching up texts with conceptual systems: Multiple treatments of the same subject by the same author, editorial shifts, dispersion of conceptual systems through several discrete texts, and the situation of texts within an author's body of work as a whole can all confound the definitive identification of a particular contributors conceptual system. Yet, while introducing these complications, texts also offer a clear window into other aspects of the propagation of intellectual traditions – issues of style, conventional development, and the envisioned scope of a given project. While I have not been able to pursue these latter concerns in the present work, I have attempted to indicate some general trends in the written plans of the texts considered. These suggest a high enough degree of continuity to warrant further study.

This indication is strengthened by the evidence in section 3.3 on the evolution of iconic structure *within* these selected texts. That section presented extensive data on patterns of reference in the work of my seven subjects. Some of the interesting trends that emerged here involve changes in the density and character of such references over the period in question. In a possible indication of increasing disciplinarity, citation appears to become more frequent and more specific as we move deeper into the nineteenth century. The content of references also changes over time, with gestural identifications of icons with general positions giving way to extensive excerpting later. At the same time, *who* the various iconic referents *are* in each work is important to keep

in mind as well. The historiographic development in chapter 2 indicated that science and philosophy might be distinguished (in part) by tendencies toward, respectively, presentist and originary referentiality.[89] Other aspects of iconic structure, alluded to in this chapter but not fully developed, include trends in the positive or negative valence of citation, and the connection of particular icons with specific communities or personal associations – fictive or actual affiliations between cited authorities and the author of the text and his audience.

Some of these last issues are made more clear in section 3.4, where patterns of intellectual genealogy are introduced. This first glance at networks of personal intellectual affiliation not only shows significant correlations between personal relationship and textual citation, but also helps to position the study of mind within the larger community. By examining the productive direct associations of each of my subjects with various individuals and organizations, I have been able to locate them according to their apparent social roles within specific subcommunities – political, religious, academic, *etc*. When these are further situated as part of a larger evolving British culture, we begin to understand the role played by the study of mind as social activity. The explicit distinction of these real-world relationships from the fictive ones set up by iconic citation allows for an assessment of cross-talk between the two regimes. This analysis has also indicated some significant problems with existing network models of philosophical traditions, such as that of Collins [1999]; Collins' work appears to rely alternately on conflation of real and fictive relationships, and on the circumscription of the network within an already assumed relevant community of discussion.

Nonetheless, direct intellectual genealogy and acknowledged icons, even in combination, still exclude actual intellectual influences not made explicit by the author. This can include both indirect influences transmitted through third parties (such as the Newtonianism expounded by the Rankenian Club to Hume and his classmates at Edinburgh) and direct influences of works read, but not cited, by authors (such as the thought of Bayle, Cudworth, Dubos, Fénelon, and King absorbed, but not mentioned, by

[89] This is Macintyre's suggestion in section 2.2.4: Science refers only to its immediate past, if any past at all, erasing the longer term development of the conceptual system ('presentist'), while philosophy points back over the course of its history to perennial foundational concerns and wisdom ('originary').

Hume).[90] Both these types of intellectual communication require the resources of close biography to emerge.

Lastly, in section 3.5, I explored further evidence of interaction among my four structural elements. This section developed a brief case study of editorial practices and their role in incremental conceptual change. I showed how nineteenth century British inquiry into the mind reflected upon, and modulated, its own past by re-sculpting the texts in its own canon to suit dynamically changing goals. The modifications wrought upon Hartley's and Mill's conceptual schemes by their latter-day editors demonstrate the fundamental flexibility of texts as conduits for the transmission of ideas.

Next, in chapter 4, I will delve into a more extensive case study within the historical problematic described here. Focusing in on the critical concept pair of 'science' and 'philosophy', I will trace changes in their relationship within this tradition to show how the enterprise of mental inquiry itself shaped and enforced this distinction.

[90] Hume's reception of Newtonianism through his instructors at Edinburgh, and his independent reading of Bayle, *et al.*, are both documented in Mossner [1980].