> My senior colleagues had caught up with me again in the demand for a historical course, but I was spared Leibniz. I chose Hume …The critical knowledge of Hume that I would need for my course would mesh with my own philosophical thinking, providing enrichment and perspective. The course, moreover, once given, could be readily given again. Rationalize as I might, however, preparation dragged. I dawdled. It was a struggle to keep ahead. By the end of the course my lecture notes were full and ready for a repeat performance another year, but I could not bear to offer the course again. Determining what Hume thought and imparting it to the students was less appealing than determining the truth and imparting that (Quine, *The Time of My Life).*[1]

> Quine might be said, in Hume's phrase, to give a 'skeptical solution' to Carnap's questions with respect to necessary truth …Quine, like Hume is a truly radical philosopher (Burton Dreben).[2]

The Construction of Relations in Hume and Quine
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INTRODUCTION

§1 Opening remarks

In view of his disavowal of historical ambitions, one might be tempted to disregard Quine's impatience with Hume not only in the passage noted above, but in all those books and papers he *didn't* write on the history of philosophy. Surely it is more "appealing" if not downright more important to "determine the truth and impart that." But in the long run, this impatience is self-defeating. For as is shown in the following chapters, not only does Quine adhere to the same fundamental epistemological assumption that Hume does, but relatedly,

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[1] *The Time of My Life; An Autobiography* (Cambridge, MA: Massachusetts Institute of Technology, 1985), p.194.
[2] "Quine," *Perspectives on Quine,* eds. Robert Barrett and Roger Gibson (Oxford: Blackwell, 1990), p. 87 and "Putnam, Quine—and the Facts," *Philosophical Topics* 20, # 1 (1992), p. 296.

like Hume, he is one of the few philosophers to countenance the psychological[3] *construction* of almost all associative epistemological elements, e.g. relations.

This work takes its point of departure from a single assumption, recently dubbed the atomistic postulate by Jaakko Hintikka.[4] Spring boarding from Hintikka's work, two distinct but not unrelated senses of the postulate are isolated, the general and the particular. On an introductory level, the general version of the postulate may be characterized simply as follows: It represents the belief that the human being has no direct access to *general* rules about the world—in short, to general knowledge. On the other hand, the particular sense of the postulate represents the belief that the human being does not, at least in the initial stages of learning, have direct access to even *particular* knowledge in so far as it is relational.

Here, it is shown that both Hume and Quine adhere to both senses of the postulate, whether overtly or not. As a result, both are forced to posit a psychological *construction* of all associative elements that are generally needed to make any knowledge claim, particular or general—in Hume's and Quine's sense of knowledge. These associative elements include first-order relations, what is expressed by verbs (including propositional attitudes) and predicates.[5] In Hume's case, these associative elements are imagined, and in Quine's case, although we are never told quite how this construction process occurs, the evidence suggests that Quine implicitly relies on a faculty similar to Hume's imagination. Finally, it

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[3] Hume's and Quine's mutual and general sense of "psychological" is meant here, which is quite simple: Dependent on the faculties inherent in the human mind. Further, both Hume and Quine think that these faculties are universal in the sense that they inhere in every normally-functioning individual. However, neither Hume nor Quine identifies these faculties with independent and universal logical rules. Rather such rules are derivative from psychological faculties. Further, neither Hume nor Quine ever appeal to a greater theological force to govern these faculties (unlike for instance, Hegel, who appeals to the Absolute Idea to direct the self-developing totality of Logic).

[4] See at least "Three Dogmas of Quine's Empiricism," *Revue Internationale de Philosophie* 51 (1997), pp. 457-477.

[5] Yet it must always be kept in mind that Hume classified all of the above as relations *per se*. C.f. Chapter 1 for more detail.

is made clear that as a result, both Hume and Quine justify[6] knowledge by *reducing* it to a psychological faculty of construction as well as to a few concepts of intuitively-grasped relations; making Quine's naturalism a psychological heir to Carnap's *Aufbau.*

§2 Associative Elements

The sense in which "associative element" is used throughout this thesis is admittedly and pointedly very broad. Further, neither philosophers actually use this term—Hume uses the word 'relation' instead.[7] Nevertheless, it is clearly present as an almost obvious necessary condition[8] for any knowledge claim. Accordingly, this means that an associative element may be characterized as any epistemological element[9] that unites two or more terms (or one term with itself)— this unification being what may be called an associa*tion* for short.[10] As such, these elements not only include logical operators, but what is expressed by *verbs*, including the so-called propositional attitudes, such as belief. This is the case because according to both Hume and Quine, propositional attitudes such as belief have the capacity to combine terms into associations, i.e. potential knowledge claims. Further, the subject/predicate relationship, i.e. predication, should also be understood as an association. For it is clear enough that according to both philosophers, claims like "The wall is white" is an association, and thus, a potential knowledge claim.

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[6] In Quine's sense of 'justify,' perhaps better expressed by "explaining the possibility of."

[7] Further, the word 'relation' in the title of this thesis is meant in Hume's broader sense of the word; it includes *all* associative elements.

[8] But not necessary *and* sufficient; necessary *and* sufficient conditions given for knowledge in Hume and Quine fall beyond the scope of this thesis.

[9] For the purposes of this thesis, it need *not* be specified what *kind* of things these are, at least from an ontological point of view. Rather, all that needs to be pointed out is that according to Hume and Quine, such elements are necessary components of any knowledge claim, regardless of how they are specifically characterized.

[10] Nothing technical is meant by "term" here. In this case, it is merely a place holder for whatever things associative elements may hold between. In other cases, it may be used to refer to an associative element itself. Further, a term may be complex, e.g. an association itself, or singular.

§3 No Association, No Knowledge

Relatedly, it is shown in Chapters 1 and 2 that according to Hume and Quine, initially, the human being is unable to associate, respectively, impressions or neural input in the broad sense just defined. *Nor* can it comprehend any already established association. For instance, according to both Hume and Quine, the human being does *not* initially grasp the associative element "or," nor a claim like "Bob *or* Sam went to the beach." Rather, in Quine's words, it apprehends unassociated "smells, noises, feels, flashes, patches of color and the like." Accordingly, because both philosophers make it clear that *any* knowledge claim must consist of *some* kind of association, the human being initially has no access to *any* knowledge, particular or general. And from a broad philosophical perspective, this makes good sense, for it seems clear enough that no knowledge claim may be understood as a *non*-associated claim. For instance, regardless of whether or not one believes that absolute terms exist—i.e. an irreducible singular term such as "man" or "walking," or an irreducible general term such as "red" or "good—" in most cases,[11] these terms do not represent what any reader would typically classify as *knowledge.*[12] However, keep in mind that an *argument* to show that all knowledge claims must be associated in the sense just

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[11] Of course there may be a few scattered exceptions. But for the purposes of this thesis, they are not significant. Further, one might object that although a given claim is associative in the sense characterized above, it is not necessarily a knowledge claim. Consider, for instance, the sentence "Block causes green." But again, be extremely careful to note that association is only a necessary condition for knowledge, *not* a necessary *and* sufficient condition. As a result, questions regarding what counts as a knowledge claim even though it might be an associative claim are side-stepped (e.g. Wittgenstein questions of "sense" v. "nonsense").

[12] One might object that there *is* in fact *non*-associated knowledge of certain objects (e.g. God) However, for reasons that need not be ventured into here, even this claim can be refuted. See for instance, Hintikka's *Knowledge and the Known; Historical Perspectives in Epistemology* (Dordrecht, Holland: D. Reidel, 1974). Here, Hintikka convincingly argues that even knowledge of an *object* is necessarily propositional (and thus, associated in the sense given above) given certain conditions needed to identify and re-identify the given object. Further, Hume and Quine would agree. For according to Hume, any knowledge claim must consist of some kind of comparison, and thus, could not consist of a direct apprehension of an object. Nor does Quine ever suggest that we may directly apprehend any object such that our knowledge it is *un*associative.

characterized, is not strictly necessary. This is the case simply because Hume and Quine claim as much themselves. Accordingly, by their *own* accounts, the human being may not initially apprehend particular or general knowledge claims in the world *because* all input is unassociated. Yet again, from an independent philosophical perspective, this position seems clearly correct; the reader need only challenge her/himself to come up with a knowledge claim that is *not* associated in some fashion. For instance, even the claim "God exists" is an *associative* claim when understood in the sense just given: God *has* the property of existence. Thus this is an associated claim, i.e. a *complex* term *qua* the association of predication.

§4 Atomism

Who is to be credited with the popularity of this expression? Hintikka is admittedly not the first to use it, although his sense of it is unique. Indisputably, its use, in various guises, stretches as far back as Democritus (460 - 370 BC). However, the *ontological* atomism that occupied Democritus is not a concern here.[13] Rather, *epistemological* atomism is, i.e. atomism pertaining to the initial information that the human being receives from the world. Yet even a survey of the entire history of the epistemological notion of atomism would be a project unto itself. For this reason, the present discussion is limited to just some of the more relevant and more recent uses of the term.

To contrast Hintikka's use of the word with others—including the extension of it used here—first consider precisely what Hintikka has in mind by "atomistic:"

> [a believer in the atomistic postulate says] that primary input is always such as to be represented by particular (i.e. quantifier-free) propositions. A simple and striking formulation is obtained in the special case of scientific inquiry by conceptualizing it as a questioning game with nature as the inquirer's respondent. Then the atomistic postulate says that the only answers good old Mother Nature yields are particular propositions.

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[13] For more detail on ontological atomism, see Andrew Pyle's recent book *Atomism and its Critics; From Democritus to Newton* (Bristol, England: Thoemmes Press, 1995).

She will only tell what the case is here and now; she will not tell me what happens on other occasions, let alone always and everywhere.[14]

That is, as already briefly noted above, according to Hintikka, "atomistic" input represents *particular* (i.e. quantifier-free) knowledge claims, as opposed to general knowledge claims, which could include laws and/or principles. This means, as suggested in the passage noted above, that the answers that may be given to questions asked of nature—i.e. the world—are limited to the particular realm.[15] As noted, 'atomistic' is also used here to mean the preclusion of general knowledge, but as noted, a more extreme sense of this postulate is also put to use, where even *particular* knowledge claims are precluded from primary input. Thus, *Hintikka's* original sense of the postulate may be characterized as the general sense, and the more extreme version as the particular sense. Further, it is shown here that particular knowledge claims are excluded because associative elements are *not* included in the primary input—with just a few fundamental exceptions. In other words, according to Hume, the human being does not have impressions of relations (in Hume's broader sense of the term); most notably, it does not have an impression of the relation of cause and effect. Similarly, according to Quine, neural input does not consist of any associative elements, which includes, as noted, first-order relations, what is expressed by verbs, or logical operators. In short then, the particular version of the atomistic postulate *is* particular because it means the exclusion of *all* associative elements from initial input.

With this in mind, recall that the word 'atomic' gained its first real currency this century with Russell's "The Philosophy of Logical Atomism" (1918). It needs to be pointed out however, that Russell did not mean what either Hintikka meant or what is meant here

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[14]Jaakko Hintikka, "The Three Dogmas of Quine's Empiricism," pp. 19-20.

[15] This characterization is better understood in the larger context of Hintikka's work on the interrogative nature of logic, which for the purposes of this thesis, will not be appealed to. For more detail see at least "The Interrogative Model of Inquiry as a General Theory of Argumentation," *Communication and Cognition* 25 (1992), pp. 221-242.

by "atomistic." Instead, Russell used 'atomic' in this essay to identify certain simple *facts*, which in all cases, could convey knowledge claims, and further, may or may not have been general. In short then, Russell used 'atomic' to mean "simple" propositions, not *particular* knowledge claims as Hintikka does, or in its more extreme sense, the *preclusion* of particular knowledge claims (and concomitantly, all associative elements)—as is meant here.[16]

It also needs to be briefly noted that the word 'atomistic' has been used this century sporadically throughout the Hume literature, if only in passing. Yet let's be sure to realize that this usage might not square with the sense employed here. For instance, Barry Stroud writes in his 1977 book *Hume:*[17]

> But Hume's originality does not consist in his commitment to the theory of ideas, even if that theory is understood as a kind of Newtonian 'atomistic' picture of the human mind … The 'atomistic' theory of ideas is clearly present in both phases [in Hume], but always in the background, not as something open to dispute or investigation.[18]

By an "atomistic" and a "Newtonian" theory of ideas,[19] Stroud simply means that just as Newton's model of the universe was built on a mechanistically driven "atomic theory of matter—"[20] i.e. *ontological* atomism—so was Hume's, where the "atoms' were simple impressions and the fundamental mechanism was Hume's "principle of the association of ideas."[21] And to *some* degree, this is what is meant here by the combined sense of the general and the particular atomistic postulate, simply because epistemologically speaking, it intimates that our knowledge is not built from *knowledge* (i.e. *associated* claims) but

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[16] Further, both Wittgenstein and Russell used the word 'atomic' to highlight the logical independence of basic propositions from each other. 'Atomic' is not however, used in this sense here.
[17] *Hume,* (Routledge and K. Paul, 1977), p. 9.
[18] *Hume*, pp. 9 & 16.
[19] The other important aspects of Stroud's interpretation of Hume are discussed in Chapter 1, §2.
[20] *Hume*, p. 8.
[21] *Hume*, p. 8.

from (*non*-associated) atomistic bits (impressions) that may in turn be somehow associated *into* knowledge claims by the principle of the association of ideas. However, this picture of Hume may be painted *only* if it is assumed that Hume did *not* think that an impression could ever consist of an associative element, which *is* in fact shown to be the case in Chapter 1. However, Stroud never explicitly attests to this, much less pursues the ramifications of such an extreme claim.

Finally, let it be duly noted now that in passing, Quine himself uses the word 'atomistic' to label not only Hume and the "old epistemologists," but to some degree, himself. We see this in at least *Roots of Reference.*[22] Here, somewhat like Stroud, he vaguely identifies what has been labeled here as the *particular* sense of the atomistic postulate with what he calls the "atomistic attitude;" characterizing it as the belief that all primary input consists of "smells, noises, feels, flashes, patches of color, and the like."[23] As such, primary input does not include any associative elements, nor does the child have the ability to *associate* such "smells, noises, feels, flashes, patches of color, and the like." Accordingly, primary input does not even convey *particular* knowledge claims, let alone general knowledge claims. Further, Quine sketches an entry in *Quiddities* titled "Atoms," which is worth brief consideration here. He writes:

> A *sensory* atomism has figured prominently in the theory of knowledge. Rumblings of it were detectable in Locke's talk of "simple ideas," and more distinctly in Hume's talk of "simple impressions." Sensation came to be conceived as a mosaic of irreducible bits, *minima sensibilia*, which came in wide but limited variety and could recur. Here the sensibilia should be seen not as the atoms but as the kinds atoms. An atom then, is any one occurrence of any of the sensibilia in the course of experience.[24]

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[22] W.V. Quine, *Roots of Reference; the Paul Carus Lectures* (La Salle, Illinois: Open Court, 1974), p. 2.
[23] *Roots of Reference* , p. 1.
[24] W.V. Quine, *Quiddities; An intermittently philosophical dictionary* (Cambridge, MA: Harvard University Press, 1987), p. 14.

That is, as noted earlier, in opposition to ontological atomism, there is *sensory* atomism, in other words, atomism that deals with epistemological issues. This kind of atomism, Quine reminds us, began to surface with Locke; "sensation came to be conceived as a mosaic of irreducible sensible bits."[25] Or as emphasized here, irreducible *unassociated* bits. And Quine is admittedly in league, although precisely in what respect is unclear here: "An atomistic approach is suggested, still by the nature of neural input [which I, Quine, sanction]. The atoms are momentary triggerings of sensory receptors."[26] Yet in the following pages, it is shown in just *what* respect both Hume and Quine adhere to the extreme version of the atomistic postulate, and subsequently, the position it puts them in in regard to the psychologically-constructed nature of associative elements, and thus, relatedly, knowledge.

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[25] Locke, however, did not abide by the extreme version of the atomistic postulate. For according to him, the human being may directly apprehend "primary qualities," which include not only what Locke classified as relations, but also, intuitive knowledge of certain relations, e.g. the existence relation. As such, all belong to what has been characterized here as "associative elements," and accordingly, all are capable of constructing a knowledge claim when combined with other input (see *An Essay of Human Understanding,* Book IV, Chapter III, §21).

[26] *Quiddities,* p. 15.