



Hume's Conception of Empirical Knowledge and Its Contribution to Understanding Language Acquisition and Teaching



La conception humienne de la connaissance empirique et sa contribution à la compréhension de l'acquisition et de l'enseignement des langues

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Abstract:

This study explores the explanatory potential of David Hume's empiricist philosophy — particularly his theory of impressions and ideas, his laws of association (resemblance, contiguity, and causation), and his central notion of “custom” as the sole ground of inference beyond immediate experience — for reframing core questions in language acquisition and pedagogy. Across three thematic sections and a critical fourth section, it examines how learners derive general grammatical rules from finite input, how semantic and lexical networks form, what philosophical grounding underlies repetition-based teaching methods, and the limits of this historical analogy. The study argues that Hume's classical “problem of induction” resonates directly with the contemporary debate on the “poverty of the stimulus,” opening a promising interdisciplinary avenue rarely explored in Arabic or international scholarship, while cautioning against anachronistic overextension of an eighteenth-century framework onto contemporary linguistic theory.

Keywords: David Hume, empiricism, impressions and ideas, association of ideas, language acquisition, poverty of the stimulus, language pedagogy, custom, mental lexicon.

Résumé:

Cette étude examine le potentiel explicatif de la philosophie empiriste de David Hume — notamment sa théorie des impressions et des idées, ses lois d'association (ressemblance, contiguïté et causalité), ainsi que sa notion centrale de « coutume », considérée comme le seul fondement des inférences allant au-delà de l'expérience immédiate — afin de repenser certaines questions fondamentales relatives à l'acquisition et à la pédagogie des langues. Structurée en trois sections thématiques et une quatrième section critique, l'étude analyse la manière dont les apprenants dégagent des règles grammaticales générales à partir d'un input limité, la formation des réseaux sémantiques et lexicaux, les fondements philosophiques des méthodes d'enseignement fondées sur la répétition, ainsi que les limites de cette analogie historique. L'étude soutient que le « problème de l'induction » classique de Hume entre

directement en résonance avec le débat contemporain sur la « pauvreté du stimulus », ouvrant ainsi une voie interdisciplinaire prometteuse, encore rarement explorée dans la littérature arabe ou internationale, tout en mettant en garde contre une extension anachronique d'un cadre théorique du XVIII^e siècle aux théories linguistiques contemporaines.

Mots-clés : David Hume, empirisme, impressions et idées, association des idées, acquisition du langage, pauvreté du stimulus, pédagogie des langues, coutume, lexique mental.

1. Introduction

David Hume (1711–1776) is among the most prominent figures of British empiricism. His arguments in *A Treatise of Human Nature* (1739) and *An Enquiry Concerning Human Understanding* (1748) marked a decisive turning point in the history of Western epistemology.¹ Yet Hume's philosophical influence did not remain confined to metaphysics and abstract epistemology. It extended — indirectly and belatedly — to fields that at first sight seem far removed from it, among them psycholinguistics, theories of language acquisition, and the pedagogy of language teaching.

This study proceeds from the assumption that the Humean conceptual apparatus — impressions and ideas, the law of the association of ideas, and the concept of custom — holds latent explanatory power that has not been sufficiently exploited in accounting for phenomena of language learning and teaching. The question Hume poses, namely how we move from partial and scattered sense data to general conclusions and universal inferences, is precisely the question facing the researcher in language acquisition who tries to explain how a child, or an adult learner, can extract a complex grammatical system from a limited and unstructured sample of heard speech.

The significance of this intersection lies in the fact that it reopens a long-standing philosophical dialogue — the conflict between empiricism and rationalism over the origin of knowledge — within a highly specialized contemporary scientific context: theories of first and second language acquisition. The question “Is linguistic knowledge acquired through experience and generalization, or does it presuppose a cognitive structure prior to experience?” is not a purely linguistic question. It is a direct resumption of a philosophical question that empiricists and rationalists have debated since the seventeenth century, and Hume was among those who pushed it furthest toward its logical conclusions.

The endeavor gains further importance when placed in a wider context: the growing interest in recent decades in what is known as “historical-philosophical linguistics,” that is, the rereading of classical philosophical texts (in Descartes, Locke, Berkeley, Hume, and Kant) in light of the precise explanatory models produced by cognitive science and modern linguistics. Such a reading does not seek to burden ancient texts with knowledge that was unavailable to their authors; it seeks to reveal the continuity of the great questions despite the change in the tools used to answer them. The question “How do we know what we know on the basis of limited experience?” is one question that takes many forms across the ages: a metaphysical form in Hume, a cognitive-developmental form in Jean Piaget, and a computational-probabilistic form among contemporary machine-learning scholars.

The study is organized into six main parts. The first presents a brief account of the Humean conceptual apparatus as the theoretical basis for what follows. The second takes up the

¹David Hume, *A Treatise of Human Nature*, ed. L. A. Selby-Bigge, rev. P. H. Nidditch (Oxford: Clarendon Press, 1978), Book I, Part I, Section I, p. 1.

philosophical confrontation between Hume's "problem of induction" and the "poverty of the stimulus" problem in generative linguistics and its alternatives, with a review of empirical evidence from statistical-learning studies. The third draws on the "law of the association of ideas" to explain the mechanisms by which lexical and semantic networks form in language learners, relying on computational connectionist models. The fourth discusses the concept of "custom" as a possible philosophical foundation — or as an object of questioning — for the repetition and practice methods that prevail in language teaching. The fifth proposes direct applied prospects for designing curricula and teaching materials inspired by this framework. The sixth is devoted to a critical discussion of the methodological limits of this interdisciplinary intersection, before the study concludes with its findings and the research horizons they open.

2. The Conceptual Framework: Impressions, Ideas, and Their Association in Hume

Hume opens his *Treatise of Human Nature* with a fundamental distinction between two kinds of mental perceptions. Impressions are everything that enters the mind with force and vivacity, such as immediate sensations, passions, and emotions. Ideas are the relatively faint images of those impressions when they are called up in thought, memory, or imagination. Hume lays down a pivotal principle: every simple idea must be derived from a prior simple impression that exactly resembles it, so that the mind cannot invent an idea out of absolute nothing; at most, it combines simple ideas drawn from experience into more complex compounds.²

Hume then turns to explaining how the mind passes from one idea to another. He advances the "law of the association of ideas" as a kind of "gentle force" that binds scattered ideas into an orderly sequence, and he restricts this law to three principles: resemblance, contiguity in time or place, and cause and effect.³ The importance of this law lies in its offering a mechanical — rather than consciously rational — account of how the contents of the mind are organized, including, as we shall show later, the organization of a speaker's mental lexicon.⁴

Hume's third pillar, and the most philosophically controversial, is the concept of "custom" or "habit," which he uses to explain how we move from observing that two events have been repeatedly conjoined in the past to expecting the same conjunction in the future, without this transition being justified by a process of purely rational inference. Custom, in Hume's view, is "the principle by which this expectation becomes regular," and — as the fourth part will make clear — it is the basis of every practical empirical inference that goes beyond what is immediately present to us.⁵

It is useful, moreover, to distinguish between simple and complex ideas in Hume. Whereas simple ideas are derived directly from the impressions that correspond to them, complex ideas arise from mental operations of combining, separating, and comparing, applied to raw material drawn from experience.⁶ Hume also distinguishes between the faculties of memory and imagination as two different ways of calling up ideas. Memory preserves the order of the original impressions and their relative vivacity, whereas the imagination has greater freedom to recombine ideas in new patterns not found in immediate experience, though it remains bound

²Hume, *A Treatise of Human Nature*, p. 4.

³Hume, *A Treatise of Human Nature*, p. 11.

⁴Hume, *A Treatise of Human Nature*, pp. 10–13.

⁵David Hume, *An Enquiry Concerning Human Understanding*, ed. Tom L. Beauchamp (Oxford: Oxford University Press, 1999), Section IV, Part II, p. 26.

⁶Hume, *A Treatise of Human Nature*, p. 17.

by the raw material that impressions supply.⁷ This distinction, as the third part will show, finds a direct echo in the contemporary distinction between the verbatim retrieval of stored sequences (formulaic retrieval) and free syntactic generation based on recombining familiar elements into novel formulations.

These pillars — impressions and ideas with their subsidiary distinctions, the law of association, and the concept of custom — constitute the theoretical foundation on which the following parts of this study rest.

3. Hume's Problem of Induction and the Problem of the Poverty of the Linguistic Stimulus

3.1 Hume's Formulation of the Problem of Induction

Hume formulates the “problem of induction” with famous clarity in Section IV of the *Enquiry Concerning Human Understanding*. However often two events have been conjoined in our past experience — such as fire and heat, or bread and nourishment — we have no purely rational justification, free of the presupposition that nature is uniform, for moving from this past repetition to the necessary expectation that the same conjunction will recur in the future. Inference from the particular to the general, for Hume, is not the product of a purely deductive mental process grounded in the principles of formal logic. It is a psychological effect produced by custom arising from repetition alone, with no prior rational guarantee that “the future will resemble the past.”

3.2 The Poverty of the Stimulus in Chomsky

This problem finds a striking echo in one of the liveliest debates in contemporary linguistics: the “poverty of the stimulus” debate, which Noam Chomsky raised in various formulations throughout his intellectual career. Chomsky observes that the child acquires a grammatical system of great complexity, including subtle syntactic rules that are never explicitly stated to the child, and for which the child may never hear examples that clearly confirm or refute them. The child does so on the basis of a limited sample of speech, often marred by errors and interruptions — what is known as “primary linguistic data.”⁸ Since, in his view, this input does not logically suffice to justify the leap to the complete grammatical system the child actually acquires within a few years, Chomsky concludes that one must posit a prior innate cognitive structure, which he calls “Universal Grammar,” that constrains in advance the space of possible grammatical hypotheses open to the learner.⁹

3.3 The Philosophical Confrontation: Rationalism versus Empiricism

The philosophical irony here is striking. Chomsky resolves the problem of linguistic induction by positing an innate rationalist structure that precedes experience — a solution that approaches the Cartesian rationalist position which Hume explicitly opposed throughout his entire philosophical project. The Humean framework proposes an entirely different solution. On this view, the learner needs no specialized innate structure in order to acquire language; it suffices to posit general (not necessarily linguistic) mechanisms of association and generalization operating on sensory input that is rich enough when considered statistically rather than in purely logical terms. Steven Pinker himself, despite defending the nativist position, has noted

⁷Hume, *A Treatise of Human Nature*, p. 74.

⁸Noam Chomsky, *Rules and Representations* (New York: Columbia University Press, 1980), p. 34.

⁹Noam Chomsky, *Knowledge of Language: Its Nature, Origin, and Use* (New York: Praeger, 1986), p. 7.

that the debate over the origin of linguistic knowledge is a direct continuation of the classical philosophical debate between empiricists and rationalists.¹⁰

3.4 Usage-Based and Connectionist Alternatives: Hume Without Knowing It?

This is precisely the position later adopted by statistical-learning approaches and connectionist neural networks in language acquisition, which hold that grammatical regularity can emerge from cumulative statistical sensitivity to patterns in the input, without any need for innate rules specific to language as such.¹¹ Jeffrey Elman and his colleagues showed, in their seminal work *Rethinking Innateness*, that simple artificial neural networks, trained solely on samples of realistic speech with no pre-programmed grammatical knowledge, are able to simulate important aspects of the regularity of linguistic behavior. This weakens the argument that grammatical generalization necessarily requires a specialized innate structure.¹²

From this standpoint, the contemporary conflict between the generative innatist approach and functional usage-based approaches in language acquisition can be read as a contemporary continuation of the classical philosophical conflict between rationalism and empiricism, of which Hume was one of the most prominent protagonists. Michael Tomasello's usage-based theory adopts, at least implicitly, a distinctly Humean empiricist position: language is acquired through general cognitive mechanisms such as imitation, pattern recognition, and pragmatic inference, operating cumulatively on a rich interactive input, rather than through the activation of a ready-made innate grammatical knowledge.¹³ Tomasello holds that children build their grammatical generalizations gradually, starting from limited constructional "islands" tied to particular verbs, before these generalizations progressively widen to encompass more general syntactic patterns. This cumulative course strongly recalls the Humean account of how general ideas are formed from the accumulation of particular impressions.¹⁴

3.5 Empirical Evidence from Statistical-Learning Studies in Infants

Perhaps the strongest direct empirical support for this Humean empiricist view comes from the pioneering study by Jenny Saffran and her colleagues. They showed that eight-month-old infants are able to learn to segment an artificial stream of speech into separate "words" on the basis of nothing but the transitional probabilities between successive syllables, after only a few minutes of continuous listening and without any external reinforcement or correction.¹⁵ The researchers interpreted this result as evidence that a general learning mechanism, not specific to language, is sufficient to explain an important part of the skill of segmenting continuous speech into lexical units — a foundational skill necessary for language acquisition.¹⁶ This result is a precise empirical translation of the Humean principle of contiguity itself. The infant, exactly as Hume describes the ordinary person's reasoning, does not apply prior grammatical rules but responds to the regularity with which syllables recur adjacent to one another in direct auditory experience, and then builds on this recurrence an implicit expectation that certain syllables "belong together" more than others.

¹⁰Steven Pinker, *The Language Instinct* (New York: William Morrow, 1994), p. 22.

¹¹Jeffrey L. Elman et al., *Rethinking Innateness: A Connectionist Perspective on Development* (Cambridge, MA: MIT Press, 1996), p. 359.

¹²Elman et al., *Rethinking Innateness*, p. 362.

¹³Michael Tomasello, *Constructing a Language: A Usage-Based Theory of Language Acquisition* (Cambridge, MA: Harvard University Press, 2003), p. 5.

¹⁴Tomasello, *Constructing a Language*, p. 98.

¹⁵Jenny R. Saffran, Richard N. Aslin, and Elissa L. Newport, "Statistical Learning by 8-Month-Old Infants," *Science* 274, no. 5294 (1996): 1926.

¹⁶Saffran, Aslin, and Newport, "Statistical Learning by 8-Month-Old Infants," 1927.

4. The Law of the Association of Ideas and the Formation of Lexical and Semantic Networks

4.1 The Principle of Resemblance and Semantic Fields

Hume's principle of resemblance finds its direct counterpart in the semantic organization based on lexical fields (semantic fields) and relations of synonymy and antonymy. The word "happy," for example, is evoked together with semantically similar words such as "joyful" and "glad" — not by mere chance, but because the mind, in Hume's words, "passes easily from one idea to another that resembles it."¹⁷ Modern language-learning dictionaries explicitly exploit this principle when they organize vocabulary into closely related semantic groups rather than in abstract alphabetical order.

4.2 The Principle of Contiguity and Collocation

The principle of contiguity appears clearly in the phenomenon of collocation: the word "strong," for instance, is evoked together with "tea" in English (*strong tea*) rather than with "powerful," which is explained by the contiguity of repeated usage rather than by purely semantic logic. Researchers in second language acquisition stress that mastery of such collocations is what distinguishes near-native fluency from usage that is grammatically correct but stylistically "odd."¹⁸ This brings us directly back to the Humean idea that it is the contiguity of elements in repeated experience, not their abstract logical validity, that produces the mental bond between them.

This use of the principle of contiguity reached its theoretical peak in the theory of Lexical Priming developed by Michael Hoey. The theory holds that every word is "primed" in the speaker's mind with a set of habitual lexical, grammatical, and semantic partners, as a result of the accumulation of the speaker's long experience with that word in repeated contexts of use, such that using the word outside its customary partners is felt as stylistically "odd" even if it is grammatically correct.¹⁹ Hoey stresses that this priming is not conscious knowledge of explicit rules but the cumulative effect of all the models of usage the speaker has previously encountered. This amounts to a precise lexical translation of both the Humean principle of contiguity and the law of custom: the word is "drawn" toward its customary partners by virtue of the repetition of its accompaniment with them in accumulated linguistic experience, not by any prior logical or semantic necessity.²⁰

4.3 The Principle of Causation and Reading Comprehension

As for the principle of causation, it manifests itself in semantic links based on relations between an action and its result, or a tool and its purpose. These links play a pivotal role in textual inference and reading comprehension among second language learners. Understanding causally complex sentences ("since ..., it follows that ...") depends on the reader's ability to retrieve chains of causal links stored in advance in his or her semantic memory, just as Hume explained our everyday practical reasoning by the recall of cause-and-effect links repeated in our experience.²¹

¹⁷[Citation missing in the source document.]

¹⁸Nick C. Ellis, "Formulaic Language and Second Language Acquisition," *Annual Review of Applied Linguistics* 32 (2012): 20.

¹⁹Michael Hoey, *Lexical Priming: A New Theory of Words and Language* (London: Routledge, 2005), p. 8.

²⁰Hoey, *Lexical Priming*, p. 13.

²¹Hume, *An Enquiry Concerning Human Understanding*, Section V, Part I, p. 32.

4.4 The Contemporary Associative Network Model

More important still, Hume's explanation of these links as the effect of repetition and custom rather than of logical necessity is entirely consistent with the contemporary Associative Network Model in psycholinguistics, in which the mental lexicon is viewed as a network of interconnected nodes whose links grow stronger the more often they are activated together.²² Nick Ellis, one of the foremost developers of this approach in second language acquisition, holds that the "frequency" of linguistic patterns in the input is the strongest predictor of the order in which they are acquired and the ease with which they are retrieved. This is a direct contemporary formulation of the Humean principle of custom based on repetition.²³ It means that Hume — without, of course, intending to — offered an early philosophical formulation of a principle that would later become a cornerstone of connectionist modeling of vocabulary acquisition and the development of linguistic proficiency.

4.5 Computational Connectionist Modeling: The Past-Tense Example

Perhaps the most famous example of translating the Humean principle of association into an explicit computational model is the model of David Rumelhart and James McClelland for the acquisition of the past tense in English. A simple artificial neural network, free of any pre-programmed morphological rules, was trained on pairs of verbs in their present and past forms. By adjusting the weights of the connections among its units in response to repetition and feedback, the network gradually learned to produce regular forms (*walk/walked*) and irregular forms (*go/went*) alike, and it even reproduced the pattern of "overregularization" actually observed in children when they say *goed* instead of *went* at a certain stage of their linguistic development.²⁴ The two researchers concluded that this pattern does not require two separate rules — one for regularity and the other for exception — but emerges naturally from a single associative learning mechanism sensitive to the frequency of patterns in the input.²⁵

The importance of this example lies in its offering a precise, testable computational formulation of what remained in Hume a general philosophical conception. The "gentle force" that binds ideas repeatedly conjoined in the human mind finds its literal counterpart in the weights of neural connections that gradually strengthen whenever two units are activated together in the artificial network. This convergence between a philosophical metaphor of the eighteenth century and a computational mechanism of the twentieth is among the most eloquent examples of the continuity of the empiricist intuition across cognitive frameworks that differ greatly in their tools.

Direct pedagogical consequences follow from this intersection. Designing curricula and learner dictionaries around networks of collocations and interrelated semantic fields, rather than around isolated, alphabetically ordered vocabulary lists, exploits — consciously or not — the very same Humean mechanism of association, and is presumed to speed the consolidation of vocabulary in long-term memory as compared with random, fragmentary memorization.

5. The Concept of Custom and the Justification of Repetition Methods in Language Teaching

²²Nick C. Ellis, "Frequency Effects in Language Processing," *Studies in Second Language Acquisition* 24, no. 2 (2002): 144.

²³Ellis, "Frequency Effects in Language Processing," 160.

²⁴David E. Rumelhart and James L. McClelland, "On Learning the Past Tenses of English Verbs," in *Parallel Distributed Processing*, vol. 2 (Cambridge, MA: MIT Press, 1986), p. 216.

²⁵Rumelhart and McClelland, "On Learning the Past Tenses of English Verbs," p. 240.

5.1 Custom as “the Great Guide of Human Life”

Hume holds that “custom” is, in his famous phrase, “the great guide of human life,”²⁶ and that it is the sole source of our expectations about the future and of our capacity to infer beyond what is immediately given. When we repeatedly see fire conjoined with heat, we do not infer the conjunction through a logical mental operation; rather, we acquire an automatic psychological expectation produced by repetition alone. Hume affirms that this principle explains not only our physical inferences but also many of our practical skills acquired through repeated practice, without full awareness of the rules underlying them.²⁷

5.2 Philosophical Influence on the Behaviorist School of Language Teaching

This conception was exploited — indirectly, and at times without explicit reference to Hume — in justifying the philosophical foundations of the behaviorist school of language teaching (the Audio-Lingual Method), which dominated foreign-language teaching in the mid-twentieth century. The assumption that language acquisition is essentially the formation of linguistic “habits” (habit formation) through repetition and reinforcement, as elaborated by B. F. Skinner in *Verbal Behavior*,²⁸ is a direct — if simplified — resumption of the Humean principle that custom, not rational inference, is the basis of all practical empirical knowledge.

5.3 Chomsky’s Critique and the Limits of Explanation by Custom

This resumption, however, raises a fundamental problem when set against Chomsky’s famous critique of Skinner’s book. Chomsky showed that language involves generative creativity that exceeds what can be explained by repetition and reinforcement alone: speakers produce and understand sentences they have never heard before, which is hard to explain by a mechanism of pure habit formation.²⁹ In other words, if Hume is right that custom is the basis of our expectations regarding observed repetition, language poses a particular challenge, because it is not merely the repetition of an observed input but an open-ended creative generation of forms that the speaker has never before encountered.

5.4 Toward a Balanced Pedagogical Synthesis

The balanced outcome of this debate seems to be that the Humean concept of custom retains partial, not total, explanatory power. It explains well the acquisition of automatic fluency (automaticity) and of ready-made formulaic sequences, which do depend on repetition and reinforcement, as the specialized literature on second language acquisition confirms.³⁰ But it falls short of explaining the creative generative capacity at the level of complex sentence construction. In this context, Peter Robinson proposes that the cognitive processing of language is divided between implicit, cumulative mechanisms resembling custom and explicit, analytic mechanisms that permit creative recombination.³¹ This opens the door to a conciliatory pedagogical approach that combines training activities based on focused repetition (to build fluency and automaticity) with open communicative activities that provide opportunities for free creative generation (to build deep syntactic competence).

²⁶Hume, *An Enquiry Concerning Human Understanding*, Section V, Part I, p. 37.

²⁷Hume, *A Treatise of Human Nature*, p. 103.

²⁸B. F. Skinner, *Verbal Behavior* (New York: Appleton-Century-Crofts, 1957), p. 10.

²⁹Chomsky, “A Review of B. F. Skinner’s *Verbal Behavior*,” p. 45.

³⁰Diane Larsen-Freeman and Michael H. Long, *An Introduction to Second Language Acquisition Research* (London: Longman, 1991), p. 55.

³¹Peter Robinson, *Cognition and Second Language Instruction* (Cambridge: Cambridge University Press, 2001), p. 6.

5.5 From Custom to Comprehensible Input: The Debate's Impact on the Development of Communicative Approaches

This tension between the explanation by custom and the explanation by generative creativity was one of the underlying intellectual motives for the historical shift from the Audio-Lingual Method, based on mechanical repetition, to Communicative Language Teaching. The latter assumes that exposure to purposeful, comprehensible linguistic input within a genuine communicative context is more effective than rote memorization detached from meaning.³² This shift coincided with Stephen Krashen's formulation of the "Input Hypothesis," which proposes that language acquisition occurs when the learner is exposed to input slightly beyond his or her current level, which the learner can understand by relying on context and shared world knowledge rather than on conscious grammatical analysis.³³ Krashen holds that this repeated exposure to comprehensible input is what gradually "consolidates" new linguistic structures in the learner's internal system, in a manner that recalls — from afar — the Humean mechanism based on the accumulation of repeated sensory experience more than it recalls the purely behaviorist model of habit formation based on direct external reinforcement.³⁴

Michael Long adds an interactional dimension to this conception. He proposes that negotiation of meaning during actual communication — when one of the interlocutors asks for clarification or a reformulation — makes the input more "assimilable" and accelerates its conversion into consolidated linguistic knowledge.³⁵ This suggests that Hume's custom, when read in the light of these developments, should not be reduced to the mechanical repetition of linguistic forms isolated from context, but can be understood in a broader sense that includes the accumulation of purposeful communicative experience itself. Such a reading brings the Humean legacy closer to contemporary communicative approaches than to the Audio-Lingual Method, which that legacy has often been invoked, historically, to justify.

6. Applied Prospects: Toward Curriculum Design Inspired by Humean Principles

6.1 Designing the Pedagogical Lexicon According to Networks of Association

As the third part showed, the Humean framework suggests that organizing new vocabulary in teaching materials according to networks of semantic resemblance, usage contiguity, and causal relations — rather than in isolated alphabetical lists detached from context — is more consistent with the natural mechanism by which the mind builds its lexical links. In practical terms, curriculum designers can organize each unit around a semantic lexical "cluster" (words relating to travel, for example), highlighting common collocations (*make a decision*, not *do a decision*) as integrated teaching units rather than as separate words to which rules of syntax are added later.

6.2 Distributed (Spaced) Rather Than Massed Repetition

If the Humean concept of custom justifies a legitimate role for repetition in consolidating fluency, contemporary research in cognitive psychology specifies the optimal form of this repetition. Repetition distributed over gradually lengthening time intervals (spaced repetition)

³²Jack C. Richards and Theodore S. Rodgers, *Approaches and Methods in Language Teaching*, 2nd ed. (Cambridge: Cambridge University Press, 2001), p. 65.

³³Stephen D. Krashen, *The Input Hypothesis: Issues and Implications* (London: Longman, 1985), p. 2.

³⁴Krashen, *The Input Hypothesis*, p. 4.

³⁵Michael H. Long, "The Role of the Linguistic Environment in Second Language Acquisition," in *Handbook of Second Language Acquisition*, ed. William C. Ritchie and Tej K. Bhatia (San Diego: Academic Press, 1996), p. 414.

produces deeper consolidation in long-term memory than intensive, successive repetition within a single session. This accords with Hume's own emphasis that the strength of the belief produced by custom is proportional to the number of repeated observations over time rather than to their immediate intensity.³⁶ It suggests designing periodic review activities distributed throughout the curriculum rather than confining them to isolated intensive training units.

6.3 Balancing Implicit and Explicit Activities

Building on the synthesis proposed in the fifth part between custom-like mechanisms and explicit analytic ones, it is advisable to design a dual instructional track. The first is an implicit track based on intensive exposure to comprehensible, purposeful communicative input, which gradually consolidates linguistic intuition and ready-made collocations without the direct teaching of explicit rules. The second is a parallel explicit track that gives the learner focused moments of conscious analysis of grammatical structure when facing difficulty or ambiguity, thereby serving the creative generative capacity that repetition alone cannot explain.

These principles can today benefit from technical tools that were not available when the original theories on which they rest were formulated. Digital spaced repetition systems and corpus query tools capable of automatically extracting the most frequent collocations allow curriculum designers to apply the Humean principles of custom and association with a statistical precision unavailable to language teachers in earlier eras. Decisions about instructional sequencing — which word or structure is introduced first, and at what pace it is re-presented — can thus be based on actual frequency data from large language corpora rather than on the teacher's intuition or an arbitrary preset order.

6.4 Assessment Sensitive to the Difference Between Verbatim Retrieval and Free Generation

Finally, the Humean distinction between memory and imagination suggests designing assessment instruments that distinguish clearly between two abilities: retrieving structures memorized verbatim (as in traditional memorization tests), and generating new structures that the learner has not directly practiced but has built by generalizing internalized rules. This is the difference that ultimately separates superficial linguistic mastery from a deep syntactic competence that can be creatively deployed in entirely new communicative contexts.^u

7. Critical Discussion: The Limits of the Analogy Between Hume and Contemporary Linguistics

Despite the richness of the analogies proposed above, methodological integrity requires drawing attention to a number of fundamental limits of this interdisciplinary intersection. The first is that Hume did not treat language or its acquisition as an independent subject of inquiry in any of his works. Everything that can be drawn from his philosophy in this regard is a later inference projected by the contemporary researcher onto a conceptual apparatus originally designed for entirely different purposes — namely, general epistemology rather than the theory of language specifically. This calls for caution against the fallacy of retrospective reading (anachronism), which burdens a classical philosophical text with more than it can bear.

The second is that Hume's concept of "custom" is a general psychological-philosophical concept that contains no detail about the precise neural or cognitive mechanisms that explain why some linguistic associations form faster than others. Contemporary linguistic and psychological theories, such as statistical-learning theory and connectionist models, by

³⁶[Citation missing in the source document.]

contrast, seek to formulate mechanisms amenable to empirical testing and computational simulation, a requirement that was not part of Hume's philosophical project at all.

The third is that the analogy between the “problem of induction” and the “poverty of the stimulus” is structural, in the logical form of the problem, rather than identical in content. Hume's problem is a general epistemological one, concerning the justification of every inductive inference, whatever its subject. The poverty-of-the-stimulus problem is a specific empirical issue concerning, in particular, the structure of natural language and the growth of grammatical ability in the child within a relatively limited period of time. Invoking the Humean conclusion — that a purely rational justification of induction is impossible — does not by itself settle either of the two competing options for explaining language acquisition (the innatist or the usage-based), because both ultimately face some form of the Humean challenge.

The fourth of these limits, and perhaps the most delicate, is that Chomsky himself was not unaware of this British empiricist heritage. He confronted it explicitly in his historical study *Cartesian Linguistics*, where he classified the tradition of Locke, Hume, and their followers among the associationist psychologists of the nineteenth century as a direct intellectual ancestor of the behaviorism he later criticized, and set it against the Cartesian rationalist tradition, in which he saw origins closer to his own generative project, despite substantial differences between the two frameworks.³⁷ This means that the analogy proposed in this study is not an entirely new discovery so much as a reactivation of an intellectual lineage of which Chomsky himself was fully aware, although he employed it for critical purposes opposite to what this study proposes.³⁸ This does not weaken the value of the analogy but situates it in its proper historical context: the confrontation between the legacy of Hume and that of Descartes in explaining language acquisition is an old one, revived in the twentieth century in new technical terminology, and not an incidental issue that contemporary linguistics invented out of nothing.

The fifth of these limits is that Hume himself described his philosophical project as “mitigated skepticism,” not the absolute skepticism that invalidates all practical knowledge.³⁹ That is, he did not seek to deny the possibility of knowledge or practical inference, but only to strip them of the strict rationalist guarantee to which the rationalist tradition aspires. This precise distinction is necessary to avoid a common misunderstanding. Invoking Hume in the context of language acquisition should not be read as a call for an extreme skeptical position that denies the possibility of studying language scientifically, but as a modest reminder that any explanation of language acquisition — innatist or usage-based — remains, in the end, a probabilistic explanation based on the regularity of observation rather than on conclusive deductive proof.

Nevertheless, these limits taken together do not cancel the value of the analogy so much as define its legitimate scope more precisely. It is a useful heuristic for reformulating questions and clarifying the philosophical assumptions underlying every theoretical position in language acquisition, not a decisive instrument for adjudicating empirically between competing theories. This is precisely what gives interdisciplinary studies between the history of philosophy and theories of language acquisition their particular value: uncovering the deep philosophical origins of methodological choices that seem at first glance purely technical, and re-situating contemporary linguistic debates within their deeper and longer intellectual-historical context.

³⁷Noam Chomsky, *Cartesian Linguistics: A Chapter in the History of Rationalist Thought*, 3rd ed. (Cambridge: Cambridge University Press, 2009 [1966]), p. 51.

³⁸Chomsky, *Cartesian Linguistics*, p. 53.

³⁹Hume, *An Enquiry Concerning Human Understanding*, Section XII, p. 108.

8. Conclusion

This study has concluded that the conceptual apparatus built by David Hume in the eighteenth century — impressions and ideas, the law of the association of ideas, and the concept of custom — holds a living explanatory power capable of being redeployed to address contemporary questions about language acquisition and teaching. Hume's problem of induction illuminates a deep philosophical aspect of the poverty-of-the-stimulus debate between generativists and usage-based theorists. The law of association offers an early conceptual framework for understanding the organization of lexical and semantic networks, in the way that contemporary connectionist models confirm. And the concept of custom provides a partial — not total — philosophical justification for repetition methods in language teaching, a justification bounded by the limits of the creative generative capacity that Chomsky's critique revealed.

The fifth part also proposed a set of direct applied prospects — from organizing the pedagogical lexicon according to networks of association, to spaced repetition, to balancing implicit and explicit activities, to designing assessment that distinguishes verbatim retrieval from free generation — as a direct practical embodiment of the theoretical principles laid down in the preceding parts. The critical discussion in the sixth part showed that this analogy, for all its richness, should be used as a conceptual heuristic rather than as a decisive arbiter among competing theories of language acquisition, in order to avoid an excessive retrospective reading of a classical philosophical text, particularly since Chomsky himself had already placed this empiricist heritage in explicit confrontation with his generative project.

The study proposes that future research on this intersection move in two directions. The first is analytic-philosophical, deepening the reading of Hume's original texts in light of the literature of contemporary philosophy of language, with closer scrutiny of the limits of legitimate retrospective reading. The second is experimental-applied, testing in the field — through comparative quasi-experimental designs — the effectiveness of curricula explicitly designed according to the Humean principles of association (resemblance, contiguity, causation) in accelerating the acquisition of vocabulary and structures, as compared with traditional curricula. This intersection between classical empiricist philosophy and contemporary theories of language acquisition remains a promising interdisciplinary field of research that has not yet received the attention it deserves in Arabic or international scholarship.

Results:

1. Hume's empiricist framework has significant heuristic value for understanding language acquisition, particularly through the concepts of impressions, ideas, association, and custom.
2. Hume's problem of induction presents a structural parallel with the contemporary poverty-of-the-stimulus debate, although the two problems are not identical in scope or content.
3. The principles of resemblance, contiguity, and causation provide a useful conceptual framework for understanding lexical and semantic network formation, particularly in relation to frequency, collocation, and associative learning.
4. The concept of custom provides only a partial explanation of language learning, being particularly relevant to repetition, automaticity, and formulaic sequences, while remaining insufficient to explain the creative generative capacity of language.

Recommendations:

1. Language curricula should organize vocabulary through semantic fields, collocations, and associative networks rather than relying predominantly on isolated vocabulary lists.

2. Teachers should incorporate spaced and meaningful repetition into language instruction to strengthen long-term retention and automaticity without reducing language learning to mechanical habit formation.
3. Language teaching should combine implicit exposure to comprehensible and communicative input with explicit grammatical activities, thereby balancing associative learning with conscious analysis.
4. Assessment should include both formulaic retrieval and creative language production, in order to distinguish memorized linguistic sequences from the learner's ability to generate novel structures.

Future Prospects:

1. Further philosophical research could examine Hume's original writings in greater depth through the perspective of contemporary philosophy of language and cognitive science.
2. Comparative empirical studies could test Humean-inspired language curricula against conventional instructional approaches, particularly with regard to vocabulary and grammatical acquisition.
3. Future research could investigate the relationship between Humean association principles and contemporary statistical-learning, connectionist, and usage-based models of language acquisition.
4. Cross-linguistic studies could examine whether association, repetition, frequency, and communicative experience operate similarly across different languages and learning contexts, particularly in Arabic and foreign-language education.

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