

Chapter 2

The Empiricist Roots of Hume's Scepticism

Abstract Hume abandoned all questions concerning the origins of perceptions and shifted his attention to internal mental processes. Epistemology is concerned with mapping the mind and Hume thus delineated a new area of philosophical inquiry that later led to the emergence of disciplines like the philosophy of mind and cognitive science. Yet these inquiries brought to light another level of scepticism. Empiricism proceeds from the rule that all knowledge must be based on observation and experience. But neither the idea of causation nor distinct existence can be derived from experience; they are based on instincts and imagination, not on reason. This conclusion seems damaging for the status of science. At that time of advancing modernity, culminating in the Enlightenment confidence in reason and cognitive optimism, such a conclusion was very disturbing indeed. Epistemology was supposed to provide rational foundations for science and this was what Hume could not deliver. Hume, however, was not concerned about natural science. He appreciated Newton's *method* and presumed that by its application to human sciences this new experimental approach would be enriched, bringing new and much needed discoveries about *human nature*.

Keywords Empiricism • Causation • Science • Reason • Instinct

2.1 From Perceptions to Ideas

Hume's epistemology is based on empiricism and on its basic principle that *all knowledge is derived from experience and must not go beyond experience*. Hume formulates this principle both in the *Treatise* and the *Enquiry*; for example, he says, "and as the science of man is the only solid foundation for the other sciences, so the only solid foundation we can give to this science itself must be laid on experience and observation" (T xvi), and he continues, "'tis still certain we cannot go beyond experience; and any hypothesis, that pretends to discover the ultimate original qualities of human nature, ought at first to be rejected as presumptuous and chimerical" (T xvii). Hume joined the group of empiricists that initiated early modern philosophical and scientific discourse, represented most notably by the French empiricists Pierre Gassendi and Pierre Daniel Huet; and in Britain by John Locke and

George Berkeley, plus “the greatest and rarest genius that ever arose for the ornament and instruction of the species”, Isaac Newton (Hume 2005, 374). The empiricists stood, broadly speaking, against the rationalists (e.g. Descartes and Leibniz), who mostly employed metaphysical assumptions and considered experience an unreliable factor in the acquisition of knowledge. Despite many individual differences, empiricism was the trademark of the new experimentally-based science and a new no-nonsense philosophy rid of obscurity, speculation and superstition.

Hume's conception of knowledge acquisition is broadly concerned with the mechanisms of deriving ideas from perceptions, and tying them together; in this respect Hume was inspired by Locke who claims: “All Ideas come from Sensation or Reflection. Let us then suppose the Mind to be, as we say, white Paper, void of all Characters, without any Ideas:—How comes it to be furnished? ... To this I answer, in one word, from Experience. In that all our Knowledge is founded; and from that it ultimately derives itself” (Locke 2011, 62). Hume's specific description of these operations differs from Locke's but both stand in opposition to Descartes' theory of innate ideas and rational intuition; they reject the argument that we can establish certainty regarding knowledge through the use of pure reason (or ‘the light of reason’), enabling us to measure the degree of certainty against the absolute certainty of *Ego cogito*. As Hume comments on Locke, “the first proposition he advances, is, that all our ideas, or weak perceptions, are derived from our impressions, or strong perceptions, and that we can never think of any thing which we have not seen without us, or felt in our own minds. This proposition seems to be equivalent to that which Mr. *Locke* has taken such pains to establish, viz. *that no ideas are innate*” (T Abstract 647).

Perceptions are the basic building blocks of the mental world and also the total contents of our minds; in Hume's epistemology they play the same role as atoms in Newton's (and earlier in Gassendi's) science of nature. To précis Hume,¹ perceptions can be divided into two classes – impressions and ideas. Impressions include sensing (hearing, seeing) and feeling (pain, pleasure) and differ from ideas in their greater force and vivacity. Ideas account for our ability to think and are faint images of impressions: “This distinction”, Hume says, “is evident; as evident as that betwixt feeling and thinking” (T Abstract 647). However, these distinctions may not be as evident as Hume claims; he often uses vague criteria, for instance when he talks about simple and complex impressions and ideas, or about belief – we know what it is when we experience it, and no definitions formulated aloof from this world can capture our psychological conviction in an adequate way. Hume then proceeds to make more subtle distinctions between impressions. There are impressions of sensations, derived from the senses; though we do not know their original cause they provide the basic material of our mental life. Impressions of reflection are produced in the reverse order from ideas, and usually concern our bodily feelings or strong emotions (e.g. pain, pleasure, hope, fear or thirst); for instance the experience of

¹For a more detailed analysis of Hume's account on the operations of the mind see, for instance, Simon Blackburn (2008), David Owen (2009) and Don Garrett (2011).

nausea caused by eating a rotting fish is stored as an idea in the memory – and if we recall it, perhaps in seeing a fish, it is as if we feel the nausea again.

Further, Hume distinguishes between simple and complex impressions and ideas. Simple ideas are copied from single impressions and complex ideas are combinations of simple ideas. Complex ideas are therefore not copied from complex impressions which may thus seem somewhat redundant; yet they have a role to play in the composition of our nature. To illustrate by way of examples, simple impressions are perceptions of single colours, tastes or shapes; whereas complex impressions unite more *specific* simple impressions – say, the colour, shape, smell, texture and taste of an apple; they are compounded from the simplest sensory data. Simple ideas are derived from simple impressions; returning to the apple, simple ideas would be ideas of roundness, redness (or yellowness, or greenness), sweetness (or sourness). Complex ideas are compounds of simple ideas, for instance an idea of an apple on a more general level; it does not have to contain the exact colour or taste of a particular apple but retains more general characteristics such as being round, hard, red (or green or yellow), etc. We can create complex ideas of non-existent fantasy creatures such as a dragon or a unicorn from simple ideas by binding them together arbitrarily in new, unnatural combinations. Overall, Hume constructs a scheme of mental operations in which knowledge proceeds from sense perceptions and impressions to ideas. This empiricist account of knowledge is encapsulated in the *copy principle*: “*all our simple ideas in their first appearance are deriv’d from simple impressions, which are correspondent to them, and which they exactly represent*” (T 4). This principle also determines the space in which our thought is supposed to operate.

How does it come that simple ideas compound together to form complex ideas? Hume ascribes this function to *associations*: “were [simple] ideas entirely loose and unconnected, chance alone wou’d join them; and ’tis impossible the same simple ideas should fall regularly into complex ones (as they commonly do) without some bond of union among them, some associating quality, by which one idea naturally introduces another” (T 10). Hume names three kinds of associations – resemblance, contiguity and cause and effect – which are the uniting principles among ideas; as Hume says, they are “the only ties of our thoughts, they are really *to us* the cement of the universe, and all the operations of the mind must, in a great measure, depend on them” (T *Abstract* 662). Upon closer examination we shall find, Hume says, “that all this creative power of the mind amounts to no more than the faculty of compounding, transposing, augmenting or diminishing the materials afforded us by the senses and experience” (E 19). His epistemology is thus concerned with our reasoning concerning matters of fact which may, in principle, be experienced; matters of fact are objects in the empirical world or, rather, in what we naturally take to be the real world. Hume contrasts reasoning about matters of fact with relations of ideas which are the objects of mere operations of thought; these are mathematical entities that “are not existent in the universe” (E25) and of which we are demonstratively certain.

Hume considers the effect of associations equivalent to the force of attraction (i.e. gravity) in Newton’s physics; both are the ‘cement’ of the universe, of the

physical and mental realms respectively. Due to associations, ideas form an intelligible network of thought – and are the fabric of *our* intelligible world. In the *Abstract*, published anonymously as a review of his own *Treatise*, Hume considered the theory of associations his greatest contribution to philosophy, for which he deserves “so glorious a name as that of an inventor”, and thus placed himself alongside Newton. (*Abstract* T 661). Nevertheless we can ask whether this description of mental life may be too narrow; Hume drew the map of mental life – based, as he argued, on careful observation of its particular components – at the age of 27 and never made any attempts to broaden it; he even simplified it in the *Enquiry*. He considered the three kinds of associations ‘complete’, perhaps to make the number correspond to Newton’s three laws of motion, these associations alone being responsible for forming ideas and connecting them in a train of thought.

Hume was confident that he had managed to establish the foundations of a fresh, science-friendly philosophy devoid of speculation and flights of fancy. There is just one simple recipe – “we need but enquire, from which impression is that supposed idea derived ... by bringing ideas into so clear a light we may reasonably hope to remove all dispute, which may arise, concerning their nature and reality” (E 22). However, Hume’s own further investigations proved that far from removing the propensity for disputes, debate increased, leading to scepticism about the rational legitimization of knowledge, thus undermining the foundational role of the copy principle. Upon closer examination we find that our natural cognitive faculties are not restricted to experience but make universal claims that cannot be derived from experience; we instinctively make a ‘leap’ of faith from observed instances (in the past and present) to the unknown future and believe that the sun will rise tomorrow, despite this expectation lacking any rational basis. This scepticism arises most sharply in rational reflection on the ideas of necessary connection and distinct existence since these ‘ideas’ are formed by our imagination but lack corresponding impressions. Imagination produces beliefs that are more vivid and forceful than mere imaginings but are “not founded on reasoning, or any process of the understanding” (E 32), and are therefore *fictions*. Fictions of this kind do not describe some ‘fantasy’ creations like a unicorn; after all, the idea of a unicorn may be reduced to various simple ideas and simple impressions. However, fictions of continued existence, causal connection or belief that the future will resemble the past cannot be so disassembled because there is no original impression from which they were derived. This conclusion takes Hume straight into sceptical contradictions.

2.2 Hume and Newton’s Experimental Method

Hume, like most of his contemporaries, had a great admiration for Newton; as I said, Hume was inspired by Newton’s experimental method. This inspiration is reflected in the subtitle of the *Treatise*, formulated by Hume as an *Attempt to Introduce the Experimental Method of Reasoning into Moral Subjects*; the determination to construct philosophy in the spirit of science was not unusual at that time.

One part of the subtitle to Hutcheson's *Inquiry Into the Original of Our Ideas of Beauty and Virtue* defines it as an *Attempt to introduce a mathematical calculation in subjects of morality*; Spinoza referred to his *Ethics* as "*ordine geometrico demonstrata*". Even philosophers who were not directly concerned with science (i.e. natural philosophy) liked to use the method and forms of science, showing their allegiance to the new age and scientifically-oriented discourse based on rational argument, empirical evidence and freedom from scholastic dogma. Newton was, of course, the most celebrated figure of the age, a discoverer of the laws and forces which govern nature and the universe. Newton's universal theory of gravitation and his laws of motion, mathematically formulated, were taken to be fundamental truths. Scientists believed that at long last, after vast tracts of time spent in ignorance and guesswork, finally the workings of the earthly and celestial worlds had been revealed.

The Royal Society, officially founded in 1663 with the assistance of Robert Boyle and John Wilkins, became the centre of experimental science: its reputation peaked under Newton's presidency, from 1703 until his death in 1727. The motto of the Royal Society, *Nullius in verba*, which means *take no one's word for it*, expressed a determination to reject any and all dogmas and superstitions and to accept only knowledge that had been experimentally tested and confirmed by experience. The intellectual world was simply fascinated by Newton. Locke, from 1668 also a Fellow of the Royal Society, claimed that in an age which had produced such Masters as the incomparable Mr. Newton, "it is Ambition enough to be employed as an Under-Labourer in clearing the Ground a little, and removing some of the Rubbish, that lies in the way to knowledge" (Locke 2011, 10). Alexander Pope glorified Newton in his epitaph (which, however, was not placed on Newton's monument at Westminster Abbey); the most famous verse says: "Nature and Nature's laws lay hid in night; God said, Let Newton be! and all was light".

Hume did not use such ostentatious phrases but he repeatedly expressed his indebtedness to Newton; he considered himself to be the 'Newton of human sciences', with the aim of bringing a similar contribution to mankind in his science of man. Newton, as Hume says, "determined the laws and forces, by which the revolutions of the planets are governed and directed. The like has been performed with regard to other parts of nature. And there is no reason to despair of equal success in our enquiries concerning the mental powers and economy, if prosecuted with equal capacity and caution" (E 14). Hume was determined to apply Newton's method, the method which forbids any speculations, sticks to what is observable and gives up the search for any secret, ultimate sources of phenomena. This attitude is often linked to one passage of Newton's *General Scholium*: "hitherto I have not been able to discover the cause of those properties of gravity from phaenomena, and I frame no hypotheses. For whatever is not deduc'd from the phaenomena, is to be called an hypothesis; and hypotheses, whether metaphysical or physical, whether of occult qualities or mechanical, have no place in experimental philosophy. In this philosophy particular propositions are inferr'd from the phaenomena, and afterwards render'd general by induction" (Newton 1934, 547). Hume echoes this rule of experimental philosophy in his description of associations: "here is a kind of

ATTRACTION which in the mental world will be found to have as extraordinary effects as in the natural, and to shew itself in as many and as various forms. Its effects are every where conspicuous; but as to its causes, they are mostly unknown, and must be resolv'd into *original* qualities of human nature, which I pretend not to explain. Nothing is more requisite for a true philosopher, than to restrain the intemperate desire of searching into causes, and having establish'd any doctrine upon a sufficient number of experiments, rest contented with that, when he sees a farther examination would lead him into obscure and uncertain speculations." (T 12-13).

Newton did not, of course, deny that science works with hypotheses; but hypotheses must not rest on metaphysical assumptions.² Newton argues that "it is not the Business of Experimental Philosophy to teach the Causes of things any further than they can be proved by Experiments. We are not to fill this Philosophy with Opinions which cannot be proved by Phænomena. In this Philosophy Hypotheses have no place, unless as Conjectures or Questions proposed to be examined by Experiments" (Newton 2002).³ Newton was accused by Leibniz of using metaphysics, Leibniz claiming it was not possible to explain in any other way how gravitation operates at a distance. This issue was addressed in the Leibniz-Clarke correspondence of 1715–1716, in which Clarke speaks for Newton. The explanation of gravitation entails, according to Leibniz, a reliance on miracles or some occult qualities (that Newton explicitly discards from experimental science). Leibniz argues that it could be perhaps "some immaterial Substances, or some spiritual Rays, or some Accident without a Substance, or some kind of *Species Intentionalis*, or some other *I know not what*, the *Means* by which this is pretended to be performed ... And if it is not miraculous, it is false. 'Tis a Chimerical Thing, a Scholastick *occult Quality*" (Leibniz 1717). Clarke, however, defends the empirical grounds of Newton's science and insists that human understanding cannot (and need not) decode the ultimate secrets of Nature. He says that gravitation "is nothing but a *Phænomenon*, or *actual Matter of Fact*, found by *Experience*". Clarke admits that gravitation must have some cause, but until it can be discovered empirically "the Cause, is [therefore] the *Effect* it self, the *Phænomenon*, or the *Matter of Fact discovered by Experience*" (Clarke 1717). Newton seems to consistently defend the view that gravity is a universal quality of bodies, but denies that he is asserting that it is an essential quality.

There have been ongoing debates about the influence of Newton on Hume, instigated by Peter Jones, and analysing the extent of Hume's knowledge of science. Jones argues that there is no evidence that Hume ever seriously studied science; by contrast he showed "a total lack of interest in contemporary science" (Jones 1982, 17); his "fundamentally humanistic orientation separates him completely from any Newtonian influence" (Jones 1982, 13–14). A few years later Michael Barfoot did a

²The metaphysical aspects of Newton's *General Scholium* are discussed in 4.8.

³This passage is taken from Newton's *Account of the Book entitled Commercium Epistolicum Collinii et aliorum de analysi promota*. The *Commercium* contains correspondence relevant to the priority dispute between Newton and Leibniz regarding the invention of Infinitesimal Calculus. It appeared anonymously, but is known to have been written by Sir Isaac Newton.

thorough archival research into Hume's education and discovered that during his studies at the Edinburgh University Hume was a member of the Physiological Library founded by Robert Steuart, and that he participated in his science course; however, Hume was then only 13 or 14 years old.⁴ The evidence shows Hume also studied Boyle and became *reasonably* familiar with Newton's *Opticks*, yet his knowledge of science was that of a man of letters predominantly interested in issues other than science. Hume certainly could not comprehend Newton's physics and mathematics. Eugene Sapadin points out that Hume's knowledge of Newton was probably derived from a number of popularizations – for instance from John Keill's lectures published as *Introduction to Newtonianism* (1702) or from Colin MacLaurin's *An Account of Sir Isaac Newton's Philosophical Discourses* (1748).

This gave Hume enough knowledge to appreciate Newton's achievements and, most importantly, his methodology, which was especially emphasized in popular accounts. As Eugene Sapadin correctly argues, "not studying Newton is not the same as not being influenced by him" (Sapadin 1997, 339). Hume laid out the methodological basis of his philosophy in the epistemological parts of his *Treatise* and *Enquiry* and considered it a new logic for moral sciences; or, as we would say today, a methodology for the social sciences. Being in a broad sense a *Newtonian* meant entering in a *new scene of thought*. It is easy today to forget how revolutionary was this change; Gassendi and his circle and Newton's immediate predecessors and contemporaries, such as Boyle, were still making a great effort to liberate natural philosophy from the Aristotelian-scholastic tradition, and despite a vehement criticism of Descartes from the position of the empiricists Descartes' contribution to freeing science from the traditional metaphysical framework was widely appreciated. Also the idea of transferring the Newtonian approach of the study of nature to the human mind and human sciences was not uncommon; in this context, Passmore refers to several verses from Pope's *Essay on Man*: "... all knowledge is, Ourselves to know... Could he [Newton], whose rules the rapid comet bind, Describe or fix one movement of his mind?" (Passmore 1952, 5–6).

Eric Schliesser comes with a different, provocative claim: that Hume intended to 'attack' Newton's authority in natural science in order to secure an independent place for moral philosophy. In Schliesser's view, Newton 'usurped' not only all the fame but asserted that natural philosophy was the foundation for all other sciences, whilst Hume wanted to assert the supremacy of the science of man (Schliesser 2009, 2011; Janiak and Schliesser 2012); he thus suggests that there was a 'territorial conflict' (or a clash of interests) between Hume and Newton. Schliesser even claims that Newton's achievements were not, in Hume's eyes, useful to the public – at least not as useful as Hume's own science of man. This argument seems farfetched. Hume appreciated Newton's method and presumed that by its application to human sciences this new experimental approach would be *enriched*, bringing new much needed discoveries about human nature. In this sense, Hume saw his project as

⁴Hume entered the University at the age of eleven, together with his brother, aged thirteen; it was common then to begin studies at 13 and to leave after 4 years – the first 2 years were devoted to Classics, followed by 2 years of natural philosophy. Hume left the University without a degree.

complementary to Newton's. However, it is true that Hume – at least in the *Treatise* – considered the science of man foundational because the analysis of the operations of the mind formed the foundations for any inquiry; every inquiry is dependent upon how we think. But even then, there is no danger of any territorial conflict between the science of nature and the science of man.

As Hume's foundational claim goes, he says that he proposed, “a compleat system of the sciences, built on the foundation almost entirely new, and the only one upon which they can stand with any security ... [this system] is the only solid foundation for the other sciences” (T xvi). A few pages later Hume gives a detailed explanation: “'Tis evident, that all the sciences have a relation, greater or less, to human nature; and that however wide any of them may seem to run from it, they still return back by one passage or another. Even Mathematics, Natural Philosophy, and Natural Religion, are in some measure dependent on the science of Man; since *they lie under the cognizance of men* [emphasis mine], and are judged of by their powers and faculties” (T xv). This foundational role is given to epistemology since it provides the mental map and supplies new logic for moral and even for natural science. One problem, though, remains. In the process of developing his science of man, Hume was entrapped in scepticism toward the legitimacy of the basic concepts we use in thinking and judgment; experimental natural science, working with universal laws, real external bodies and their causal relations, thus becomes undermined in its essence.⁵

2.3 The Copy Principle

The copy principle entails that “we have no idea of any quality in an object, which does not agree to, and may not represent a quality in an impression; and that because all our ideas are deriv'd from our impressions” (T 243). Hume claims that the copy principle is *derived from the observation of our mental mechanisms*; it is introduced as an *empirical generalization* and as a *description* of how we in fact form knowledge. At the same time the copy principle defines the *norm of empiricism* delineating the proper (empirical) domain of our understanding; so far it has a *prescriptive* role.⁶ Only knowledge that fulfils this norm can be granted the certificate of being

⁵Mossner points out (and is puzzled by) Hume's rather excessive scepticism concerning natural science; note 4 of the manuscript memoranda on “Natural Philosophy,” which seems to belong to his pre-*Treatise* period, reads: “a Proof that natural Philosophy has no Truth in it, is, that it has only succeeded in things remote, as the heavenly Bodys, or minute as Light” (Mossner 1970, 75).

⁶Jerry Fodor emphasized this clash in Hume's copy principle claiming that it contains both an explanation of how ideas acquire their content and a condition of legitimating for ideas. Thus Hume's psychology interferes with his epistemology. Fodor's advice is to focus primarily on Hume's science of mind by the way of “abstracting from the aspects of Hume's theory of mind that are dictated primarily by his epistemology” (Fodor 2003, 33). Similar tendencies appear in Garrett (2011) and Biro (2009). The interpretations of Hume that underrate the clash between the psychological and the normative aspects of the copy principle also tend to underrate the force of his

rationally justified and can receive scientific status. If the copy principle worked like that, Hume's epistemology would be perfect in every way – it would capture the nature of empiricism and serve as a guide for the methodology of experimental science and philosophy. If, as Hume says, all “ideas are preceded by other more lively perceptions, from which they are derived, and which they represent” then Hume could “hope this clear stating of the question will remove all disputes concerning it...” (T 7). However, if we find that there are ideas without corresponding impressions, the whole structure of the copy principle collapses; and that is exactly what happened to Hume when he examined more carefully how we form knowledge. He had to admit that *our basic inferences and judgments violate the copy principle*. He was thus left with three options – to drop the copy principle, to revise it or to admit it was dogmatic. He chose none of them.

The most quoted counter-example to the copy principle is very specific: it refers to the “missing shade of blue” in the whole spectrum of shades of blue (T 5-6); Hume suggests that in this particular case we can supply the sense deficiency with our imagination. He concludes the passage with a verdict many find surprising and which Flew deemed scandalous and outrageous; according to Hume this is “a proof that the simple ideas are not always ... derived from corresponding impressions; though this instance is so singular that it is scarcely worth our observing” (E 21, T 6). However, the copy principle is not only a *psychological* generalization based on the observation that “ideas and impressions *appear* [emphasis mine] always to correspond to each other” (T 3), in which case we may allow for a few minor deviants. Hume himself insists that “it still remains true, that all our simple ideas proceed either mediately or immediately, from their corresponding impressions” and concludes that “this is then the first principle I establish in the science of human nature” (T 7). The copy principle is a universal rule and the foundation of the experimental method – yet “any universal generalization is decisively falsified by even one single genuine counter-example” (Flew 1986, 21). Prior to the discussion on the missing shade of blue Hume seemed to agree with this maxim. He invites anybody who doubts the *universal validity* of this rule to challenge it by finding one case in which an idea is not derived from an impression; “it will then be incumbent on us, if we would maintain our doctrine, to produce the impression, or lively perception, which corresponds to it” (E 19-20); if the search is positive the copy principle should be refuted. Yet when Hume comes to discuss the example of the missing shade he ignores this resolution. This seems a considerable inconsistency.

Some philosophers, though, do not judge Hume so harshly. Garrett, for instance, claims that the copy principle is an empirical generalization (that leads to ‘conceptual

epistemological scepticism. John Biro, who attributes to Hume an original contribution to the ‘New science of the mind’, argues that “his skepticism is better understood as one about pretended supra-scientific metaphysical knowledge, rather than about scientific knowledge itself” (Biro 2009, 46). But Hume in his epistemological writings was deeply sceptical about all empirical knowledge including science. The foundational aspect of epistemology was constitutive for the philosophical discourse at that time, and Hume was no exception. His provocative solution to the legitimization crisis lies in a carefree (‘Pyrrhonian’) abandonment of the problem and in shifting the inquiries to moral science instead.

empiricism') and that it only aims to show that experience is the basic (but not the absolutely necessary) condition for understanding. Garret admits that Hume's confidence in the copy principle is not based on extensive empirical research, but that "[Hume] thinks that he has observed enough about human nature to know that, if counter-examples to the copy principle were at all common, then he would have heard of them" (Garrett 1997, 48). According to Garrett, a few exceptions do not change the overall empiricist grounding of knowledge-formation; after all, we are continually observing how our minds work and adding new facts to the initial picture. Garrett concludes that the copy principle "provided Hume a motivation to form more detailed investigations into the cognitive processes underlying the use of central yet problematic concepts" and "to focus on those investigations in the area of experience and practice, on which these concepts are based" (Garrett 1997, 57). Garrett is right about Hume's aim to 'anatomize' our nature, here specifically the mechanism of our mental life, but he underestimates the normative impact of the copy principle. Generally, his approach to Hume seems too conciliatory; he suggests that ideas lacking their corresponding impressions may be rationally justified, at least to a degree, since they are also products of our reasoning – though not certified by this reasoning. He is rather evasive about these contradictions in Hume's philosophy and following his account it may be hard to understand why Hume was a sceptic; it would be also difficult to understand why the awareness of sceptical contradictions should cause such suffering and anxiety to him, as described in the Conclusion of Book I of the *Treatise*, or why he consistently admitted the hopelessness of efforts to find a solution to the sceptical crisis.

To sum up, Hume's scepticism unfolds from the *contradiction between the norm of empiricism (defined in the copy principle) and the real processes in our thinking*. These processes do not follow the steps prescribed by the copy principle and transcend the narrow, straightjacketing scope delineated by Hume's strict empiricism. This sceptical conclusion concerns the basic and most general inferences and judgments; the causal relations and the 'objectivizing' nature of our thought. Causation is for Hume the constitutive inference for our comprehension of the world. As he says, "if we anatomize all the other reasonings of this nature [concerning matter of fact], we shall find, that they are founded on the relation of cause and effect" (E 27). We expect that fire always produces heat or that bread always nourishes – the former is a cause that necessarily produces that latter effect. However, if we limit our judgment to what we directly observe we have no evidence of any causal relation. We only observe two distinct phenomena or events; we also have the experience that they always occur together, in succession. We have experience of their *constant conjunction* but not of their *necessary connection*; it is illegitimate to extrapolate from the past to a universal necessity that will be valid in the future.

2.4 Ideas Without Impressions?

Hume exposes this contradiction to broad daylight. With regard to causation he acknowledges that we observe only single, loose events of which one has always preceded the other. However, the idea of causation entails necessary connection of two events and allows no exception; there must be something – some energy, power or efficacy – in the cause that always *produces* the same effect. Therefore, as Hume says, “we must find some impression, that gives rise to this idea of necessity, if we assert we have really such an idea”; in fact, though, we “immediately perceive, that they [‘cause’ and ‘effect’] are *contiguous* in time and place, and that the object we call cause *precedes* the other we call effect. In no one instance can I go any farther, nor is it possible for me to discover any third relation betwixt these objects” (T 155-6). The conclusion that “no objects have any discoverable connexion together, and that all the inferences, which we can draw from one to another, are founded merely on our experience of their constant and regular conjunction” (E 111-12) implies that, in accordance with the copy principle, we should never even have the idea of a necessary connection – and thus no idea of causation. And this is exactly what Hume claims. “We have no idea of this connexion; nor even any distinct notion what it is we desire to know, when we endeavour at a conception of it” (E 77). In one of his most extreme statements Hume even admits that this implication of empiricism may paralyze our lives; we may observe, he says, that “the necessary conclusion *seems* to be, that we have no idea of connexion or power at all, and that these words are absolutely without any meaning, when employed either in philosophical reasonings, or common life” (E 74). If applied to common life, we not only could not think and judge but, taken to the extreme, we could not live. However, Hume sees the absurdity of such a conclusion which is contrary to all evidence. He thus corrects the argument concerning the relation of cause and effect: “in all these expressions *so apply’d*, we have really no distinct meaning, and make use of common words, without any clear and determinate ideas” (T 162).

At this stage, Hume introduces another power – it is human nature endowed with instincts, including cognitive instincts, and common sense. Nature is like a sweeping current that wafts away all our doubts concerning the idea of causation and external existence and makes us ignore the copy principle. Due to our nature we believe in causal power and in the independent existence of things around us; this belief is instant, irresistible and involuntary, allowing no discussion. When we *reflect* upon the situation we must conclude, under critical scrutiny, that we cannot have any ideas of necessity, or external existence, since they cannot be derived from experience. Yet we *have them*, we have the thoughts and the words – and we call them ‘ideas’ because it is natural to do so despite the fact that they are neither proper nor adequate. Therefore, Hume’s declaration in the *Abstract* that “if no impression can be produced, he [i.e. Hume himself] concludes that the term is altogether insignificant” cannot be interpreted literally (T *Abstract* 649). The idea of necessary connection *governs our thought and actions but is rationally illegitimate*.

Hume remains true to the Newtonian experimental method and rejects any explanations of causation using references to some hidden mechanisms by which the "human mind is actuated in its operations" (E 14); therefore, "the ultimate springs and principles are totally shut up from human curiosity and enquiry" (E 30). Sceptical research into causation (or existence) is irresolvable and epistemology must move to different themes. Hume thus shifts his attention onto *how these ideas arise in our mind*. He introduces new terms that are formative of this process – custom, imagination and belief. The construction of the 'inadequate ideas' begins with a *repeated* experience of two events being conjoined. If Adam "created in the full vigour of understanding, without experience" observed billiards for the first time he would not be able to predict the movement of a ball struck by another ball (T *Abstract* 650). In a similar way, Adam "could not have inferred from the fluidity, and transparency of water, that it would suffocate him, or from the light and warmth of fire, that it would consume him. No object ever discovers, by the qualities which appear to the senses, either the causes which produced it, or the effects which will arise from it" (E 27). But after he has repeatedly observed billiards being played he becomes *accustomed* to the conjunction of the two events and he would then "always conclude without hesitation, that the second [ball] would acquire motion" (T *Abstract* 651).

Thus custom stimulates our imagination and forms a belief in the necessity of the connection between the cause and the effect even though it does not have rational support. Repeated experience of the constant conjunction of events "immediately, by the force of custom, carries the imagination to conceive that object, which is usually conjoined to it; and this conception is attended with a feeling or sentiment, different from the loose reveries of the fancy. In this consists the whole nature of belief" (E 48). As Hume describes in his second definition of cause, "*the appearance of one object always conveys the thought to that other*" (E 77); it is a kind of conditioned reflex in which "the mind anticipates the senses" (E 77) or, we could say, it jumps ahead of the senses and 'cheats' the copy principle. The same pattern is applied in the case of our ideas regarding the external existence of things like a tree or a table. In a philosophical reflection we perceive fleeting and interrupted impression; they come and go, mix and change. In the empiricist view we should not be able to form the idea of a thing that remains unchanged (or continues to exist) when we turn our eyes away; we have no impression of a distinct and constant existence. Despite that, due to our natural propensity, we "unite these broken appearances by the fiction of a continu'd existence" (T 204).

On the one hand our imagination produces a belief in the identity of resembling perceptions and on the other hand we know that perceptions are unstable, always in flux. The first view is typical of the vulgar view common to, as Hume says, "all the unthinking and unphilosophical part of mankind" (T 204). Opposed to this is the philosophical view, which uses critical reflection of our mental operations; in this view, the belief is unfounded since we only perceive single unconnected sense data. However, even a philosopher who is aware of this dilemma cannot resist the belief. He, at times, philosophizes in a closet, isolated from common life and haunted by scepticism; but he also finds himself "absolutely and necessarily determin'd to live,

and talk, and act like other people in the common affairs of life” (T 269), and then all doubts vanish like a puff of smoke. Being both a sceptical philosopher and a common man he is trapped in an unenviable position, torn between belief and reason and being perplexed (and traumatized) by this contradiction. This contradiction between reason, that performs *profound reflection* and finally discovers “surprising ignorance and weakness of the understanding” (E 76), and nature, that commands *blind submission* to beliefs, is the leading theme in Hume’s epistemology.

2.5 The Constitution of Our World

Following up on the previous chapter on the Cartesian strands of Hume’s scepticism it is important to stress that on the empiricist level his scepticism – resulting from the contradiction between empiricist norms and the natural cognitive processes that violate these norms – *does not have ontological relevance*. All Hume’s considerations of causation or existence concern the realm of *the activities of our hearts and minds*. Since Descartes proclaimed that we were aware only of our own mental contents the constitution of objectivity became a primary philosophical concern. Hume looks at *how our thinking constitutes objectivity* – it is thus objectivity generated by the subject from his own resources and by his own dispositions (associations, imagination, sentiments, and beliefs. Our knowledge is about entities produced by our minds: Hume concludes that causation “is a quality which can only belong to our mind” (T 168) and that two [phenomenal] objects “have acquired a connection in our thought” (E 76); analogically, when Hume talks about external existence he investigates how *we come to have the idea* of an object and *why we believe* that, for example, this table has a real existence. This level of Hume’s scepticism thus concerns *the world of our thought* and brings forward the importance of the activity of the self, the constitution of objectivity *by the subject*.

Descartes merely acknowledges it is a disposition of the human mind: “there can be no ideas that are not as it were (*tanquam*) ideas of realities” (Descartes 1979[1641], 84). Hume also takes for a fact that “whatever we conceive, we conceive as existent” (T 67) but pays more attention to the mechanisms of this constitution; he works on our mental geography, the anatomy of human nature, of which thinking is only one part. This aspect of Hume’s scepticism strongly influenced Kant. The fact that we noetically make our world awoke him from his “dogmatic slumber”; and Hume’s account of these operations of the mind made Kant look for a sounder foundation than Hume’s purely empiricist suggestions. Kant’s awakening is commonly associated with his criticism of Hume’s psychological account of causation – but that is only one part of the story. Kant’s awakening entailed a break away from the metaphysical rationalism of Christian Wolff, the leading Enlightenment philosopher in Germany before him. In the “Preface” to the second edition of his *Critique of Pure Reason* Kant calls him the greatest of dogmatic philosophers; although he appreciates Wolff’s contribution to establishing a deductive mathematical method applicable to both philosophy and science, creating thus a

modern (German) philosophical vocabulary, he abandons Wolff's metaphysical anchor of philosophy – for Wolff *philosophia rationalis* is framed in theology.

In this sense, the abandonment of metaphysics led Kant to his famous Copernican turn. As Copernicus denied that celestial bodies revolve around the stationary Earth, but declared that the Earth itself moves, Kant replaced the assumption that “all our cognition must conform to objects” with the opposite, namely that “objects must conform to our cognition” (Kant 1996, B xvi, 57). The first impulse, given by Descartes and further developed by Hume, was finally completed by Kant. Kant criticizes Hume for his purely empiricist and psychological explanation of cognition – we cannot explain from experience alone the universal necessity entailed in our thinking and knowledge. Kant's plan was to unite the two formative elements of knowledge, experience and understanding, on the basis that the latter cannot be derived exclusively from the former. Being more ‘realist’ than Hume Kant claims that perceptions, as the material of experience, are not of “unknown origin” but come from outside, from things in themselves that affect our senses; in this context, I repeat Kant's famous statement: “for what else might rouse our cognitive power to its operation if objects stirring our senses did not do so?” (Kant 1996, B 1, 43).

This may seem a rather dogmatic introductory sentence for somebody who has just awakened from a dogmatic slumber. Even if the intention was to avoid the dissolution of all experience in pure subjectivity the claim would remain dogmatic. Why, then, does Kant need the thing in itself? The explanation is given only later in the *Critique*; Kant argues that the existence of the thing in itself is a precondition of our ability to conceive of the permanence and continuance of perceptions in time. This awareness cannot, according to Kant, be deducible from the transcendental activity of the self since the awareness of the permanence of the self is itself a precondition of this kind of perception. Kant says: “I am conscious of my existence as determined in time. All time determination presupposes something *permanent* in perception. But this permanent something cannot be something within me, precisely because my existence can be determined in time only by this permanent something ... i.e. the consciousness of my existence is simultaneously a direct consciousness of the existence of other things outside me” (Kant 1996, B 276, 290). This is yet another issue relevant to Hume.

Kant's primary target is Hume's conception of experience. For Kant, experience itself is not ‘given’ in perceptions as Hume assumes; “even though all our cognition starts **with** experience [raw material of sense impressions], that does not mean that all of it arises **from** experience” (Kant 1996, B 1, 44). Experience is dependent on pure intuition (time and space) and understanding is dependent on pure concepts of understanding (categories); both are formal *a priori* dispositions. Experience presupposes a *form* of ordering of the matter for cognition, taken from the senses. What we are directly conscious of are already perceptions *experienced in time and space*, later submitted to the categorial synthesis through which they derive their *objective meaning*; these are, as Kant says, the conditions of the possibility of experience which are, at the same time, the *conditions of the possibility of the objects of experience*. Hume's position, in which knowledge is formed from impressions by the mechanisms of association that are themselves triggered by this sense experience, is

thus unacceptable to Kant; Hume looks like a Don Quixote attacking windmills in the vain hope of producing sound epistemology from *mere* observation.

In the *Prolegomena* Kant criticizes Hume's empirical derivation of causal necessity from the perception of one appearance constantly followed by another; in Kant's famous metaphor, Hume, owing to his empiricism, "deposited his ship [epistemology] on the beach (of skepticism) for safekeeping, where it could then lie and rot" (Kant 2004, 11–12). Although it is believed that Kant read only Hume's *Enquiry*, this formulation seems to refer to Hume's sceptical conclusions from the *Treatise* concerning the sorry state of our understanding wherein he compares reason to the "weather-beaten vessel" (T 263). Kant wants to continue Hume's voyage by supplying the ship with a "pilot [reason], who, provided with complete [*a priori*] sea-charts and a compass, might safely navigate the ship ... following sound principles ... drawn from a knowledge of the globe" (Kant 2004, 12) – in other words, equipped with the *a priori* dispositions that guarantee the necessary unity of experience and knowledge. Hume's epistemology cannot, according to Kant, accommodate reason and be the foundation of all other sciences, as Hume proposed in the *Treatise*. Kant was also an admirer of Newton and even claimed that it was absurd to hope that maybe another Newton might some day arise. He perceived his epistemology as the right foundation of Newton's natural science; that plus Kant's own moral science – "the starry sky above me and the moral law within me" – were for Kant the two things that "fill the mind with ever new and increasing admiration and reverence" (Kant 2002, 203). He hoped to deliver what he felt Hume had failed to provide.

Kant's criticism of Hume is often considered too sceptical and too rationalistic; not adequately appreciative of Hume's naturalism and dwelling on the *a priori* ('innate') basis of our experience. In this view, Kant represents a continuation of the tradition of "rationalistic metaphysics" of the Cartesian provenance whose "consummate defeat" is the main achievement of Hume's philosophy (Millican 2006, 50–1). Hume obviously rejected Descartes' innate ideas on the basis of his empiricism; however, Hume explicitly declared that the main problem of his epistemology – and the main source of his scepticism – lies elsewhere, in the impossibility of providing a rational warrant for the natural production of beliefs. Hume also recognizes that this scepticism is a defeat of the rationality of knowledge. However, Kant's criticism reveals an even *deeper level of scepticism* that results from pure empiricism, a level of which Hume was unaware. Kant claims that *Hume's empiricism fails to provide the philosophical foundations for the mere possibility of experience*; thus the main problem of Hume's philosophy is (for Kant) not the problem of the justification of beliefs but the problem of the alleged natural production of beliefs. According to Kant, Hume did not acknowledge that our 'natural dispositions' must be *formally* prior to experience and not triggered by repeated experience. One may disagree with Kant but it is a valid argument that moves Hume's scepticism into a new domain.

This issue of learning and knowledge-building is high on the agenda of contemporary cognitive science and it seems that Kant was ahead of his time in opening up the problem of innate dispositions. Are our cognitive abilities, either generally or

some specific dispositions such as the linguistic, mathematical and musical – innate, that is genetically endowed, or are they acquired by learning through the evolution of our species and through interaction with our environment? Or can there be some overlap, for instance when long-term adaptation strategies result in genetic changes and become innate? The debate is far from settled and new medical and computing techniques are enabling us to penetrate ever deeper into these problems. Hume (with Locke) and Kant can be seen as the first philosophers to embark on the project of constructing a science of the mind. They are also the founders of the two opposing trends which continue today in the empiricist/nativist debate; Hume and Kant anticipated the debate but lacked many of the experimental and research opportunities which twenty-first century science has at its disposal.

However, it would be wrong to reduce Hume's philosophical importance to cognitive psychology and to leave out the sceptical issue of the rational warrant of epistemology. The psychological interpretations of Hume (e.g. Garrett 1997; Fodor 2003; Biro 2004) show Hume's relevance to modern cognitive science, and to some extent link his naturalism to Quine's project of naturalized epistemology. As emphasized especially by Garrett, Hume does not ask about the normative foundation of beliefs but seeks to explain the natural causes of them; Garrett concludes that according to Hume our reasoning pertaining to matters of fact (our inductive reasoning) is not affected by any higher-order rational inference though it involves the exercise of reason: "[Hume] is denying only that we come to engage in this species of reasoning as a result of any piece of reasoning about it" (Garrett 1997, 94). In a detailed criticism of Garrett, Millican argues that Hume (especially in the *Enquiry*) no longer uses the term 'reason' in a psychologistic way and that his principal focus is on epistemology and the questions of *rational warrant* (Millican 1998, 141–160). Hume, as mentioned above, admits defeat on this point. Scepticism with regard to the rational foundations of knowledge is inescapable and psychologically traumatic. Therefore, he quickly moves on to more positive domains of inquiry, including our natural disposition to acquire knowledge.

Yet in Hume's philosophy this positive domain is not consistently united with his sceptical conclusions. On the one hand, Hume is totally sceptical regarding the rational foundations of knowledge; and on the other hand he is totally non-sceptical about the power of nature in forming knowledge. Millican describes this as a *false dichotomy* due to the classic sceptical *caricature* of Hume's philosophy (Millican 2007, 194–197). He illustrates this "false indiscriminating scepticism" with Stroud's "delightful phrase": "as far as the competition for degrees of reasonableness is concerned, all possible beliefs about the unobserved are tied for the last place" (Stroud 1977, 54). Millican argues that these two attitudes, the sceptical and the non-sceptical, are mutually supportive and not exclusive since we are psychologically unable to refrain from forming beliefs about the unobserved. Yet does the fact that we do indeed both form beliefs and discredit their rational basis demonstrate the unity of these two attitudes? Furthermore, would any classic sceptical Humean deny the coexistence – though not necessarily harmonious – of these attitudes? Stroud himself claims that Hume's scepticism was paving the way for his naturalistic account of human nature. Richard Popkin and, to an extent, Robert Fogelin also

agree that Hume's naturalism and his scepticism coexist – they are neither at war nor in partnership; Hume's scepticism remains theoretically totally unmitigated and his naturalism remains totally rationally unjustified, despite being pragmatically functional since our natural inclinations ignore the theoretical condemnation. The relationship between the two attitudes can vary depending upon the angle from which we view them; pragmatically and practically they are supportive, if that is what Millican claims, whilst rationally they are exclusive, and the natural attitude does not require any theoretical support since it represents an instinctive embracement of the “bare necessities of life”.⁷ Hume's ambivalence to these persisting tensions between the various perspectives on reason, nature and knowledge is linked to his Pyrrhonism, which instructs us to be tolerant and even indifferent to contradictions, as discussed in Chap. 5, despite such an injunction being unacceptable to the scientific, analytical discourse prevailing in contemporary interpretations of Hume.

Millican's main aim is to show that Hume's scepticism does not undermine the possibility of inductive science. Of course it does not – provided we accept that science is founded on instincts, custom and belief, justified by its own efficiency and results. Hume never denied that we use (rationally unwarranted) inductive reasoning in forming our knowledge; according to him – but denied by Kant – this is what we naturally do. However, as argued later in this book, Hume never considered this self-justifying *practice* a solution to the lack of *rational justification*. And since no philosophical solution was available, Hume moved away from epistemology into moral science. He was not too disconcerted by the fact that science was founded on animal instincts since *natural science did not interest him*; the Scottish Enlightenment was oriented more to humanism in a broad sense than to natural science. Men of letters from Glasgow, Aberdeen and Edinburgh formed groups and societies with a wide range of overlapping interests – for example moral philosophy (Francis Hutcheson), economy, history and social philosophy (Lord Kames, Adam Smith, Adam Ferguson), literature, linguistic and poetry (Allan Ramsay, James Burnett, Hugh Blair, Alison Rutherford), the philosophy of common sense (George Campbell, Thomas Reid, James Beattie); Hume was a member of “The Select Society” – later the “Poker Club” – a group of *literati* which met in Edinburgh.

He was concerned for the well-being of mankind but did not think it could be achieved purely or even primarily through progress in natural science; besides, he believed that everything in this field had been already discovered by Newton. Therefore Millican's arguments that Hume was a fervent advocate of inductive science, or that Hume was both “deeply sceptical about induction (in a sense), *and* totally committed to inductive science” (Millican 2007, 195) seem farfetched. Hume was by no means an advocate of natural science, let alone a fervent one – he simply did not care about science (see Sect. 2.2). Rather than advocating inductive science, Hume backed out of this field; and in a loosely Pyrrhonian way he accepted that unlike beasts we are capable of profound reflection and like beasts we follow

⁷The Baloo song from the movie *The Jungle Book* expresses this attitude quite well: “Look for the bare necessities/The simple bare necessities/Forget about your worries and your strife/I mean the bare necessities/Old Mother Nature's recipes/That bring the bare necessities of life.”

nature. The natural instincts of human beings include cognitive instincts, linked to other unique faculties such as abstraction, language and memory – but this uniqueness does not in principle modify the basic duality inherent in the human constitution, a duality which cannot be unified by any metatheory (not even by mitigated scepticism, as discussed in Chap. 5).

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<http://www.springer.com/978-3-319-43792-7>

David Hume, Sceptic

Parusniková, Z.

2016, XV, 126 p., Softcover

ISBN: 978-3-319-43792-7