

# Hume on Induction and the Faculties

Hume frequently talks of human faculties, and some of his most celebrated discussions are presented as revolving around the identification of which faculty – for example *reason*, *the senses*, or *the imagination* – is responsible for some vital cognitive operation. Perhaps the three most familiar examples concern induction, belief in the external world, and the foundation of morals:

... the next question is, whether experience produces the idea by means of the understanding or imagination; whether we are determined by reason to make the transition, or by a certain association and relation of perceptions. (T 1.3.6.4)

The subject, then, of our present enquiry, is concerning the *causes* which induce us to believe in the existence of body: ... we ... shall consider, whether it be the *senses*, *reason*, or the *imagination*, that produces the opinion of a *continu'd* or of a *distinct* existence. (T 1.4.2.2)

... we need only consider, whether it be possible, from reason alone, to distinguish betwixt moral good and evil, or whether there must concur some other principles to enable us to make that distinction. (T 3.1.1.3-4)

There has been a controversy started of late ... concerning the general foundation of MORALS; whether they be derived from reason, or from SENTIMENT ... (M 1.3)

This gives the impression that faculty psychology plays a major role in Hume's philosophy, and strongly suggests that clarifying his view of the faculties will be crucial to understanding some of his key philosophical positions.

## 1. Hume on induction: survey and agenda

This suggestion is confirmed by the literature on Hume's famous argument concerning induction, in which the main interpretative options can be most illuminatingly distinguished in terms of the view they take of Humean *reason* (as understood both within the argument and elsewhere). Thus the most distinctive feature of the interpretation put forward by Flew (1961) and Stove (1965, 1973) was their claim that Hume presupposes a *deductivist* view of reason and rationality. Later scholars such as Beauchamp *et. al.* (1975, 1981), Arnold (1983), Broughton (1983) and Baier (1991) – while agreeing with Flew and Stove that a deductivist notion is operative within the famous argument – insisted that Hume's aim in the argument is to *undermine* that notion and replace it with another, more genuinely Humean, notion of reason that he employs elsewhere. Both of these views were challenged by Millican (1995) and Garrett (1997), who pointed out that the logic of the famous argument seemed not to make sense under a deductivist interpretation. Millican preferred to see it as centred around a broadly *perceptual* model of reason, while Garrett took Humean reason to be essentially a faculty of *inference*, and Hume's conclusion to be a *descriptive* account of how we reason – a contribution to cognitive science – rather than any sort of normative epistemology. Owen (1999) concurred strongly with Garrett on this point, while identifying *stepwise ratiocination involving Lockean "intermediate ideas"* as the crucial factor that characterises what Hume here understands by "reason". Both Millican and Owen, however, agreed with Beauchamp and others that for Hume "reason" is ambiguous, and that the notion operative within the famous argument plays the role of a target to be undermined, to be

replaced in due course by a genuinely Humean alternative. Garrett, strongly attacking this general consensus, insisted that Humean "reason" is univocal, taking it to refer – both within the discussion of induction and elsewhere – to "the general faculty of making inferences or producing arguments".

Over the last decade or so, the interpretation of Hume on induction has continued to revolve around his understanding of "reason". Noonan (1999) elaborated Garrett's interpretation, Winkler (1999) insisted on a normative approach, while Millican (1998, 2002) – retreating on the ambiguity claim in response to Garrett (1998) – objected against any *descriptive inferential* view of Humean reason, that such a faculty would have to embrace bad as well as good inference. Roth (2006) then focused on this objection, suggesting a possible reply, while Loeb (2006) pressed it further against Garrett and Owen. He also exploited it to support a novel positive account based on an *externalist* conception of rationality, although Beebe (2006) meanwhile appealed to rather similar considerations to defend an account similar to Owen's. Millican responded against these new approaches in his (2007), and most recently, Allison (2008) has joined him in emphasising reason as *perception*, while agreeing with Garrett and Owen that a focus on *inference* dominates the famous argument.

Thus the notion of *reason* continues to play a central role in the interpretation of the logic of Hume's argument, and it also features explicitly in that argument's conclusion:

... not only our reason fails us in the discovery of the *ultimate connexion* of causes and effects, but even after experience has inform'd us of their *constant conjunction*, 'tis impossible for us to satisfy ourselves by our reason, why we shou'd extend that experience beyond those particular instances, which have fallen under our observation. (T 1.3.6.11)

When the mind, therefore, passes from the idea or impression of one object to the idea or belief of another, it is not determin'd by reason, but by certain principles, which associate together the ideas of these objects, and unite them in the imagination. (T 1.3.6.12)

The interpretation of this key result of what Hume would later (in his 1740 *Abstract*) call the "Chief Argument" of the *Treatise* clearly depends crucially on his view of "reason". Is this result to be understood as (at least in part) *normative* – a denial that induction is rationally well-founded in some sense – or just *causally descriptive* – a denial that induction is caused by reasoning?<sup>1</sup> If the result is normative, then is Hume here assuming that rational well-foundedness requires deductive certainty (e.g. Stove), or some kind of rational perception (e.g. Millican)? If the result is purely descriptive, then is he denying that induction is caused by *meta-reasoning* (e.g. Garrett), or that induction proceeds by *stepwise ratiocination* (e.g. Owen)? All of these options will carry different implications for the interpretation of Hume's philosophy, both within the famous argument and beyond.

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<sup>1</sup> It is important to note that a normative interpretation is *also*, typically, causally descriptive. Indeed Hume has traditionally been interpreted as arguing that *precisely because* induction cannot be justified normatively, *it follows that* our inductive inferences cannot be explained as resulting from a faculty of rational insight, and must *therefore* be causally explained in another way (i.e. as resulting from the associative tendencies of the imagination). Hence the recent tendency to characterise the style of interpretation proposed by Garrett and Owen as though these were specially distinctive in being causal – through epithets such as "*the causal/explanatory reading*" (Roth 2006, p. 106) or "*the causal interpretation*" (Kail 2007, p. 44) – risks fundamentally misleading the reader. Another often crude and unilluminating, but regrettably very common, categorisation of interpretations is in terms of whether or not they portray Hume as "sceptical" about induction: for a comment on this see note 72 in §7.3 below.

“Reason” is not the only faculty reference in Hume’s texts that stands in need of clarification. Often he expresses very similar points in terms of both “reason” and “the understanding”, as for example when stating the conclusion of his argument concerning induction in the *Enquiry*:

This transition of thought from the cause to the effect proceeds not from reason. It derives its origin altogether from custom and experience. (E 5.20)

I say then, that, even after we have experience of the operations of cause and effect, our conclusions from that experience are *not* founded on reasoning, or any process of the understanding. (E 4.15)

... in all reasonings from experience, there is a step taken by the mind, which is not supported by any argument or process of the understanding ... (E 5.2)

Is “the understanding” simply equivalent to “reason” in such contexts? Millican claims that it is, while Garrett denies this, explaining that the appearance of equivalence is due to reason’s being “the main element of the understanding”.<sup>2</sup> Again, Hume’s talk of “the imagination” is sometimes confusing and – by his own admission – ambiguous, while its relationship with reason (or the understanding) is unclear. Sometimes he seems to treat the imagination as an entirely distinct and rival faculty, so that explaining some phenomenon – for example our belief in body – as due to one of them automatically excludes the other. At other times, he treats reason (or the understanding) as encompassed within the imagination, as for example, when he refers to “... the understanding, that is, ... the general and more establish’d properties of the imagination” (T 1.4.7.7).

Given all this controversy and potential confusion, it is not surprising that the major parties to the interpretative debate, from Stove to Garrett, and from Beauchamp to Owen, have laid great stress on understanding “Hume’s reason” as the key to understanding his philosophy of induction.<sup>3</sup> But then it does seem particularly surprising that there has apparently been no previous attempt to illuminate this debate by undertaking a detailed investigation into Hume’s treatment of the faculties in general. This is therefore my agenda here: to investigate his use of faculty language *throughout* his philosophical system, with the ultimate aim of shedding light on his view of induction in particular.

In order to remain as objective as possible, without prejudging controversial points in the induction debate, I shall start from a survey of the relevant texts, ignoring entirely – at least initially – interpretative issues such as whether Hume’s use of “reason” is normative or descriptive, ambiguous or univocal. To minimise potential complications arising from the development of his philosophy over time, I shall focus mainly on the *Treatise*, and try to build up a reliable picture of his view of the faculties when he was composing that work. Moreover within the *Treatise*, I shall first survey those passages where Hume himself *explicitly* uses faculty language, which are therefore likely to be the

<sup>2</sup> See Millican (1998), pp. 157-8 n. 7 and Garrett (1998), p. 194 n. 10, and cf. §3 below.

<sup>3</sup> *Hume’s Reason* is the title of Owen’s book; Stove’s analysis is primarily devoted to identifying Hume’s “suppressed premise” of deductivism; Beauchamp *et al.* introduced the key idea that Hume’s notion of “reason” is ambiguous; Garrett’s analysis is presented within a book chapter entitled “Reason and Induction”. The first section of Millican (2002), following his introduction, is entitled “Descartes, Locke, and the Ancient Tradition of Perceptual Reason”, and the last is entitled “Hume’s Reinterpretation of ‘Reason’”.

most self-conscious and authoritative.<sup>4</sup> There is no guarantee that this will deliver the most informative passages, but it should serve to minimise any bias from interpretative preconceptions.

## 2. Identifying the “Faculties” in the *Treatise*

If we analyse Hume’s use of faculty terms in the *Treatise*, to try to establish a map of their “geography”,<sup>5</sup> the picture that emerges is rather unclear. Often he speaks of “the faculties of the mind” quite generally, without apparently presupposing any particular organisation of them.<sup>6</sup>

Our thought is still more variable than our sight; and all our other senses and faculties contribute to this change; (T 1.4.6.4)

When the soul applies itself to the performance of any action, or the conception of any object to which it is not accustomed, there is a certain unpliableness in the faculties ... (T 2.3.5.2)

Let us therefore run over all the faculties of the soul, and see which of them is exerted in our promises. (T 3.2.5.2)

Sometimes, in the same spirit, he talks loosely of “powers and faculties”, even ascribing such “faculties” to the imagination, which is itself generally treated as a faculty in its own right:

When the imagination, from any extraordinary ferment of the blood and spirits, acquires such a vivacity as disorders all its powers and faculties ... (T 1.3.10.9)

Clearly this sort of language tells us very little about Hume’s perspective on faculty psychology. But his references to particular faculties are more informative. For example he frequently describes “the imagination” (or equivalently “the fancy”) as a faculty, and sometimes “the memory”:<sup>7</sup>

As all simple ideas may be separated by the imagination, and may be united again in what form it pleases, nothing would be more unaccountable than the operations of that faculty, were it not guided by some universal principles ... (T 1.1.4.1)

it is evident that the belief arises not merely from the transference of past to future, but from some operation of the fancy conjoined with it. This may lead us to conceive the manner in which that faculty enters into all our reasonings. (T 1.3.12.22)

what is the memory but a faculty, by which we raise up the images of past perceptions? (T 1.4.6.18)

Hume’s references to “the senses” are as plural *faculties*:

To begin with the senses, it is evident these faculties are incapable of giving rise to the notion of the continued existence of their objects, ... (T 1.4.2.3, cf. 1.4.2.5, 1.4.2.9)

<sup>4</sup> That is, passages from the *Treatise* which include either the word “faculty” or “faculties”. One important point of this restriction is to reduce the search space (in an appropriate manner) so as to allow a comprehensive analysis within its bounds. This analysis should therefore be potentially repeatable by any reader with access to a searchable electronic edition of Hume’s *Treatise*, and can avoid the risk – or suspicion – of a “pick and mix” approach to the selection of texts. I move beyond this restriction in the second half of §2.1 and from §3 onwards.

<sup>5</sup> This is an allusion to E 1.13, where Hume talks of “mental geography, or delineation of the distinct parts and powers of the mind”.

<sup>6</sup> Many more examples could be given here, for example from T Intro.4, 1.1.1.9, 1.2.3.10, 1.4.1.1, 1.4.2.33, 1.4.7.1, 1.4.7.8, 2.3.8.13, and 3.3.4.4.

<sup>7</sup> Examples of the imagination being described explicitly as a faculty are legion, for example: T 1.3.7.7, 1.3.10.7, 1.4.2.48, 1.4.4.1, 2.2.2.22, 2.2.5.5, 2.2.7.4, 2.3.7.5-8, and 3.3.2.3. Comparable further references to the memory are fewer, at T 1.1.3.3 and T 1.3.13.19.

When specifically itemised, he recognises the conventional five senses: “sight”, “touch”, “hearing”, “smell”, and “taste” (T 1.4.4.12, 1.4.5.10). He also, just once in the *Treatise*, uses the term “internal sense” (T 3.1.1.25, cf. E 7.4; M 1.3, 1.9) for what he more usually calls “reflection”, which should presumably also be recognised as a Humean faculty (though he never explicitly calls it such). In the *Treatise* he standardly pairs “sensation” and “reflection” alongside each other,<sup>8</sup> usually as sources of impressions (and hence ideas). Although this syntactic pairing might superficially seem to suggest a view of “reflection” as an independent faculty *distinct* from “the senses”, its effect is rather to stress the fundamental *similarity* Hume sees between them, following here straightforwardly in the footsteps of Locke:

the *Perception of the Operations of our own Minds* within us ... which Operations, when the Soul comes to reflect on, and consider, do furnish the Understanding with another set of *Ideas*, which could not be had from things without: and such are, *Perception, Thinking, Doubting, Believing, Reasoning, Knowing, Willing*, and all the different actings of our own Minds; which we being conscious of, and observing in our selves, do from these receive into our Understandings, as distinct *Ideas*, as we do from Bodies affecting our Senses. This Source of *Ideas*, every Man has wholly in himself: And though it be not Sense, as having nothing to do with external Objects; yet it is very like it, and might properly enough be call'd internal Sense.<sup>9</sup> But as I call the other *Sensation*, so I call this *REFLECTION* ... These two, I say, viz. External, Material things, as the Objects of *SENSATION*; and the Operations of our own Minds within, as the Objects of *REFLECTION*, are, to me, the only Originals, from whence all our *Ideas* take their beginnings. (*Essay II* i 4)

Hence it seems appropriate to place *reflection* within Hume’s general category of *the senses*, a category unified by the role of supplying impressions to the mind.

Turning now to what Reid would later call the mind’s “active powers”, Hume here gives very little detail about the relevant mental geography, though he explicitly describes “the will” as a faculty and also – just once – “the passions”:

Beside these calm passions, which often determine the will, there are certain violent emotions of the same kind, which have likewise a great influence on that faculty. (T 2.3.3.9)

I have observ’d, that those two faculties of the mind, the imagination and passions, assist each other in their operation, when their propensities are similar, and when they act upon the same object. ... these two faculties of the passions and imagination are connected together ... (T 2.2.2.16)

In this last passage Hume seems to be speaking of the passions as a faculty only in order to emphasise his point about their reciprocal influence with the imagination;<sup>10</sup> his more general view of them is as a sub-category of “secondary impressions” or “impressions of reflection” (T 1.1.2.1, 2.3.9.1).<sup>11</sup> “The will” is a much stronger candidate as a Humean faculty, being treated as such by most of his

<sup>8</sup> See T 1.1.1.12, 1.1.2.1, 1.1.6.1, 1.2.3.6, 1.2.5.28, 1.3.2.16, 1.3.14.6, 1.3.14.10, 1.4.5.4, 1.4.5.18, 2.1.1.1.

<sup>9</sup> This is Locke’s only use of the phrase “internal sense”. Hume shows greater fondness for the term, as indicated above, and he also speaks several times of “internal impressions” (T 1.2.3.2-3, 1.3.14.12-25, 1.4.2.20, 2.3.1.2; E 7.9).

<sup>10</sup> Compare *M App* 1.4 where Hume likewise talks of “sentiment” as a faculty, in order to facilitate a contrast with the understanding.

<sup>11</sup> As we shall see again in §4.1, Hume’s treatment of the passions as impressions is extremely problematic, embracing relatively pure feelings or emotions such as hunger (e.g. T 2.1.5.7) as well as manifestly intentional states such as desire (e.g. T 2.2.6.4-6). For a useful recent discussion, see Alanan (2006).

contemporaries and referred to repeatedly throughout the *Treatise* and *Enquiry*. It has an intimate relationship with the passions, and Hume often brackets them together as “the will and passions” (T 1.3.10.3-5, 2.3.7.3-4, 2.3.7.8, 3.2.7.2). Part 3 of *Treatise* Book 2 is entitled “Of the Will and Direct Passions”, with Hume explaining in its second paragraph that “tho’, properly speaking, [the WILL] be not comprehended among the passions, yet as the full understanding of its nature and properties, is necessary to the explanation of them, we shall here make it the subject of our enquiry.” (T 2.3.1.2). He immediately goes on to state that “by the *will*, I mean nothing but *the internal impression we feel and are conscious of, when we knowingly give rise to any new motion of our body, or new perception of our mind*”. This equation of the will with an internal impression, no doubt motivated by his Copy Principle, seems to be a slip, as it leaves no obvious mark on his treatment of the will elsewhere. A more charitable reading would be that Hume intends “the will” to refer to our faculty of knowingly – and “willingly” – giving rise to actions (of the mind and body), a faculty of which we become aware, and whose idea we thus acquire, through a corresponding internal impression. Such willing or *volition*, he thinks, inevitably involves a passion, as is made clear in a famous passage:

Since reason alone can never produce any action, or give rise to volition, I infer, that the same faculty is as incapable of preventing volition, or of disputing the preference with any passion or emotion. ... ’Tis impossible reason cou’d have the latter effect of preventing volition, but by giving an impulse in a contrary direction to our passion; and that impulse, had it operated alone, wou’d have been able to produce volition. Nothing can oppose or retard the impulse of passion, but a contrary impulse ... Thus it appears, that the principle, which opposes our passion, cannot be the same with reason, and is only call’d so in an improper sense. We speak not strictly and philosophically when we talk of the combat of passion and of reason. Reason is, and ought only to be the slave of the passions, and can never pretend to any other office than to serve and obey them. ... (T 2.3.3.4)

Accordingly Hume maintains that when philosophers consider pure “reason” to be influencing the will, they are misidentifying as “reason” what is in reality a generalised passion “such as benevolence and resentment, the love of life, and kindness to children; or the general appetite to good, and aversion to evil, consider’d merely as such” (T 2.3.3.8). Such a passion is easily “confounded with reason” because it “operates with the same calmness and tranquillity”, but this is certainly a mistake: influence on the will is a sure sign that a passion – rather than pure reason – is in play.

## 2.1 The “intellectual faculties” in the *Treatise*

All of the faculties examined so far – imagination, memory, senses (both external and internal), and will – seem to be relatively straightforward to identify and to distinguish from each other, though Hume shows particular interest in the narrowest of these distinctions, between the imagination and memory, and he devotes most of *Treatise* 1.3.5 to its clarification.<sup>12</sup> But things initially become more blurred when we try to pin down Hume’s references to our more “intellectual faculties”, a phrase which he himself uses twice in the *Treatise* (and more frequently in the *Enquiries*).<sup>13</sup> The principal

<sup>12</sup> This account is also anticipated at T 1.1.3.1.

<sup>13</sup> In the *Treatise* the phrase occurs at T 1.3.12.20 and 2.3.8.13, and in later works at E 5.5 n. 8, 9.6, M 1.9, M App 1.11, 1.13, 1.18, 3.9, and *Essays* 240 (“Of the Standard of Taste”).

candidates here are “the judgment” (T 1.3.9.16, 1.4.1.6), “the understanding” (e.g. T 1.4.2.14), and of course “reason” (e.g. T 3.3.4.5), though he also sometimes seems to refer to such “faculties” as the revival of ideas upon use of a general term (T 1.1.7.8, 1.1.7.15), and – beyond the *Treatise* – the compounding of ideas (A 20). What, exactly, are the relationships here?

Further clarification can be sought from those passages where Hume explicitly *distinguishes* between the intellectual and other “faculties”, for example our *tastes and sentiments*:<sup>14</sup>

The sole end of logic is to explain the principles and operations of *our reasoning faculty*, and the nature of our ideas; morals and criticism regard *our tastes and sentiments*. (T Intro.5, my emphasis)

Here the intellectual faculties are distinguished from *memory*:

That faculty ... *the memory*. ... why the faculty of recalling past ideas with truth and clearness, should not have as much merit in it as *the faculty of placing our present ideas in such an order as to form true propositions and opinions*. The reason ... must be, that *the memory* is exerted without any ... pleasure or pain, and in all its middling degrees serves almost equally well ... But the least variations in *the judgment* are sensibly felt in their consequences; while at the same time that faculty is never exerted in any eminent degree, without an extraordinary delight and satisfaction. The sympathy with this utility and pleasure bestows a merit on *the understanding*; and the absence of it makes us consider *the memory* as a faculty very indifferent to blame or praise. (T 3.3.4.13, my emphasis)

Here *the judgment* is distinguished from *the imagination*:

It may therefore be concluded, that our *judgment* and *imagination* can never be contrary, and that custom cannot operate on the latter faculty after such a manner, as to render it opposite to the former. This difficulty we can remove after no other manner than by supposing the influence of general rules. ... Since we have instances where general rules operate on *the imagination*, even contrary to *the judgment*, ... (T 1.3.13.11-13, my emphasis)

And here, finally, *reason* is distinguished from *passion* and *the will*:

Since *reason* alone can never produce any action, or give rise to volition, I infer, that the same faculty is as incapable of preventing volition, or of disputing the preference with any passion or emotion. ... Nothing can oppose or retard the impulse of *passion*, but a contrary impulse; and if this contrary impulse ever arises from *reason*, that latter faculty must have an original influence on *the will* ... (T 2.3.3.4)

Note particularly Hume’s fluid interchange in the second passage between “the faculty of placing our present ideas in such an order as to form true propositions and opinions”, “the judgment”, and “the understanding”, apparently for the sake of elegant variation. This plainly suggests that he is indifferent between all these various ways of referring to what he takes to be one and the same faculty. And this suggestion is corroborated by the striking absence of any passages at all drawing a *contrast* between his terms for the intellectual faculties: he *never* opposes “reason” to “the understanding”, or either of these to “the judgment”.

Similar evidence – but even stronger – can be found in numerous other *Treatise* passages which exhibit the same sort of free interchange between the terms “reason” and “the

<sup>14</sup> For the remainder of this paragraph, I continue to restrict attention to passages which include the word “faculty” or “faculties” (see note 4 above). Without this restriction, there would be many more such passages to choose from.

understanding”.<sup>15</sup> Here, for the sake of brevity, I shall select only a few of these passages, and quote them without comment (in every case, the emphasis is mine rather than Hume’s):<sup>16</sup>

... the next question is, Whether experience produces the idea by means of *the understanding* or of the imagination; whether we are determin’d by *reason* to make the transition, or by a certain association and relation of perceptions. (T 1.3.6.4)

... the mind ... is not determin’d by *reason*, but by certain principles, which associate together the ideas of these objects, and unite them in *the imagination*. Had ideas no more union in *the fancy* than objects seem to have to *the understanding*, ... (T 1.3.6.12)

*Our reason* must be consider’d as a kind of cause, of which truth is the natural effect; but such-a-one as by the irruption of other causes ... may frequently be prevented. ... our experience of the veracity or deceitfulness of *our understanding* ... (T 1.4.1.1)

There are no principles either of *the understanding* or *fancy*, which lead us directly to embrace this opinion ... ‘The ... hypothesis has no primary recommendation either to *reason* or *the imagination* ...’ (T 1.4.2.46)

This sceptical doubt, both with respect to *reason* and *the senses* ... ‘Tis impossible upon any system to defend either *our understanding* or *senses* ... (T 1.4.2.57)

... we subvert entirely *the human understanding*. We have, therefore, no choice left but betwixt a false *reason* and none at all. (T 1.4.7.7)

All of these appear to exemplify a merely stylistic variation between “reason” and “the understanding”, exactly paralleling in some cases a similar variation between “the fancy” and “the imagination”. As if to remove any doubt as to whether this terminological variety might have some deeper philosophical significance, Hume expands a footnote taken from T 2.2.7.6 to form another at T 1.3.9.19 (cf. note 55 in §6.1 below), adding three sentences and making a number of manifestly stylistic changes, including the modification of:

... when it [the imagination] is oppos’d to the understanding, I understand the same faculty, excluding only our demonstrative and probable reasonings.

to:

... when I oppose it [the imagination] to reason, I mean the same faculty, excluding only our demonstrative and probable reasonings.

Presumably this change was prompted in part by the clumsiness of “... the understanding, I understand ...”. But whatever lies behind it, there is clear evidence here that “reason” and “the understanding” are, for Hume, totally equivalent.

In addition to this wealth of indirect textual evidence, we also have a very explicit statement in

<sup>15</sup> Hume also occasionally alternates between “reason” and “the judgment”, but because the latter term is often used to refer to specific judgements rather than a faculty, some relevant texts are subtly ambiguous. Passages apparently alternating between “reason” and “judgment” in the faculty sense include T 1.3.15.11, 1.4.1.6, 2.1.11.2, possibly 3.3.1.18 and App 1, while the *Dissertation on the Passions* 5.1 talks of “... reason, in a strict sense, as meaning the judgment of truth and falsehood ...”

<sup>16</sup> For other relevant passages from the *Treatise*, see for example T 1.3.13.12, 1.4.1.12, 1.4.2.14, 2.3.3.2-6, 3.1.1.16-18, and 3.1.1.26. For passages from the *Enquiry*, see E 4.0-1, 5.5, 5.22, 7.28 and 9.0-1. As the two quotations from T 1.3.6.4 and 1.3.6.12 illustrate, Hume interchanges between “reason” and “the understanding” within his famous argument concerning induction just as he does elsewhere. For other references to “the understanding” within the treatment of induction in the *Enquiry*, see especially E 4.15, 5.2 and 5.8.

a long footnote added to the *Treatise*, where Hume insists on this integration of the intellectual faculty, and criticises traditional logicians for subdividing its operations:

We may here take occasion to observe a very remarkable error, which being frequently inculcated in the schools, has become a kind of establish'd maxim, and is universally receiv'd by all logicians. This error consists in the vulgar division of the acts of the understanding, into *conception*, *judgment* and *reasoning*, and in the definitions we give of them. Conception is defin'd to be the simple survey of one or more ideas: Judgment to be the separating or uniting of different ideas: Reasoning to be the separating or uniting of different ideas by the interposition of others, which show the relation they bear to each other. But these distinctions and definitions are faulty ..." (T 1.3.7.5 n. 20)

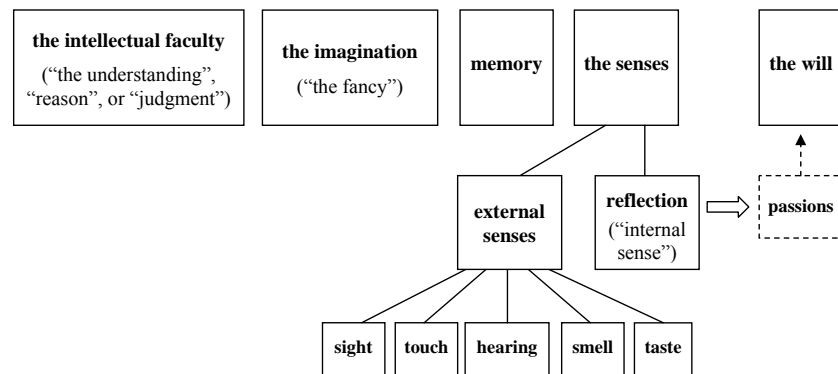
Hume goes on to explain that a judgement or proposition (e.g. that God exists) can involve just a single idea, and that reasoning can involve only two (without any "medium" to connect them), as for example when "we infer a cause immediately from its effect". Though standardly classified as distinct "acts of the understanding", *conception*, *judgment* and *reasoning* actually "all resolve themselves into the first, and are nothing but particular ways of conceiving our objects". He continues:

Whether we consider a single object, or several; whether we dwell on these objects, or run from them to others; and in whatever form or order we survey them, the act of the mind exceeds not a simple conception; and the only remarkable difference, which occurs on this occasion, is, when we join belief to the conception, and are persuaded of the truth of what we conceive.

Hume's reduction of judgement and reasoning to conception is clearly motivated by his theory of causal inference, in which a transfer of vivacity "from the impression to the idea", through the operation of custom, serves to change conception into belief.<sup>17</sup>

## 2.2 The Treatise taxonomy of the faculties

Summing up so far, our survey of Hume's faculty references in the *Treatise* – omitting those passages in which he refers very generally to "all the faculties of the soul" (T 3.2.5.2) etc. – points strongly to a taxonomy that recognises just five main divisions within the faculties:



<sup>17</sup> It also draws on his denial of any separate idea of existence, which he takes to be implied by his Copy Principle (T 1.2.6.2-5) and to undermine the Ontological Argument. Hence his choice of the example "God is" (T 1.3.7.5 n. 20).

In this diagram, a solid connecting line indicates a constituent relationship (e.g. sight is a sub-faculty of the external senses). The passions are shown in a dotted box, indicating their dubious status as a faculty, while the two arrows highlight their intermediate position between the faculty of reflection (from which, as internal impressions, they arise) and the will (which it is their nature to influence).

We have already noted the *absence* of any passages drawing a contrast between the various terms that Hume uses for the "intellectual faculties", which strongly corroborates the hypothesis that he draws no fundamental divide between them. It is likewise significant that – apart from the obvious distinction between the various senses – there do not seem to be any passages at all in which Hume implies a faculty separation within *any* of the main categories in the fivefold taxonomy above, whereas he explicitly *distinguishes* at least once between almost every pair of them. To give just one example of each, the imagination is spoken of in terms implying separation from reason (T 1.4.2.14), the memory (T 1.3.5.3), the senses (T 1.2.4.30), and the passions (T 2.2.2.16); reason is likewise distinguished from the memory (T 3.3.4.13), the senses (T 1.4.2.2-3), and the will (T 2.3.3.4); while memory is distinguished from the senses (T 1.3.5.2-3). (No explicit distinction is urged between will and memory, or will and the senses, presumably because the differences here are quite obvious.)

We shall see in §4.3 below that most of this taxonomy can be understood as arising quite naturally from Hume's general philosophy of mind. Before proceeding with this, however, it will be helpful to deal with a contrary claim that has been prominently made by Don Garrett and David Owen, who insist on a fundamental division within Hume's "intellectual faculties" and thus contradict the conclusion reached above, that Hume's terms "reason" and "the understanding" are equivalent.

## 3. Reason and the understanding

My claim of equivalence between Humean "reason" and "the understanding" – though in a sense merely terminological – is potentially very significant for the interpretation of Hume on induction. For as we saw briefly in §1, scholars such as Garrett and Owen interpret his famous denial that induction is founded on "reason" as ruling out only a foundation in *inference* or *ratiocination*. To make this claim textually plausible, they are thus forced to take "reason" as referring quite narrowly to a particular sub-faculty of the mind whose special role is ratiocination, rather than to the more comprehensive cognitive faculty known as "the understanding". The latter – as witnessed by the scope of Locke's appropriately named *Essay Concerning Human Understanding* – was generally taken to encompass not only inference, but also a wide variety of other cognitive operations such as the grasping of ideas, the apprehension of perceptions conveyed through the senses, and the perception and judgement of intuitive and probable connexions. A denial that induction is founded on any operation of this general cognitive faculty would therefore be a far more significant result (and potentially more sceptical) than a mere denial that induction is founded on ratiocination in particular. In order for Hume's negative result concerning induction to be as non-sceptical as Garrett and Owen maintain, therefore, "reason" must apparently be merely a sub-faculty of "the understanding".

The historical evidence that they provide for their interpretation, however, is rather scanty, and seems to derive entirely from Locke. Thus Garrett (1997, pp. 26-7):

“Reason,” according to Locke, is the faculty of the “discovering and finding out of Proofs,” “laying them in a clear and fit Order,” “perceiving their Connexion,” and “making a right conclusion” (*Essay* IV.xvii.3). Reason is thus a faculty of finding, presenting, appreciating, and being moved to belief by arguments. ... Similarly for Hume, reason is the faculty of reasoning: of making inferences, or providing, appreciating, and being moved by arguments.

And again (1997, p. 85):

Hume has not explained his use of the term “reason” up to this point [because] he has been following the common Lockean usage of that term ... That usage, as Hume here notes [*T* 1.3.11.2, 124], treats the products of “reason” as consisting in both knowledge *and* probability. This is because, for Locke, “reason” is simply the inferential or argumentative faculty of the mind. Thus Locke states unequivocally “Reason, therefore ... I take to be the discovery of the Certainty or Probability of ... Propositions or Truths ...” (*Essay* IV.xviii.2; see also *Essay* IV.xvii.2).

Garrett’s book does not directly address the relationship between “reason” and “the understanding”, but in a 1998 *Hume Studies* exchange he took up the topic in response to Millican’s citation (1998, p. 157 n. 7) of passages such as those from §2.1 above as an objection to his account:

As I read Hume, “the understanding” signifies all of our cognitive processes – including intuition – and is therefore rather broader than the inferential “reasoning”. (Garrett 1998, p. 185)

A note here (p. 194 n. 10) continues:

Millican’s citations do not persuade me that “reason” and “understanding” are synonyms; since reason is the main element of the understanding, whatever can be ascribed to reason can also be ascribed to the understanding.<sup>18</sup> Hume can appropriately entitle Book I of the *Treatise* “Of the understanding,” but it would not be nearly as appropriate to entitle it “Of Reason.” Similarly, Locke’s entire book is called *An Essay concerning Human Understanding*; one of its chapters is “Of Reason.”

Owen’s book is more explicit than Garrett’s on the relationship between “reason” and “the understanding”, and is very definite on how these should “strictly” be interpreted, despite Hume’s lapses (1999, p. 142, n. 40):

Hume sometimes uses “understanding” and “reason” as synonyms, though strictly speaking the understanding is a more inclusive faculty than reason. His loose use of the traditional faculty terminology is in part due to his theory that all the traditional activities of the understanding reduce to conception: [here Owen quotes from *T* 1.3.7.5 n. 20, cf. §2.1 above]

Perhaps precisely because Owen takes this terminology to be “traditional”, he does not explicitly cite any references to back up his claims about how it was used. However it is clear from his overall discussion (e.g. pp. 63-5, 74, 78, 85-6, 91) that, like Garrett, he takes Hume’s use of the terminology to be directly derived from that of Locke.

<sup>18</sup> This point cuts both ways, however: if ratiocination is the dominant operation of *reason* (i.e. *the understanding*), then this can equally explain away why much of what Hume says about “reason” can easily be interpreted in Garrett’s way as concerning ratiocination in particular (even if in fact Hume is referring, throughout, to the understanding). Suppose that in *Treatise* 1.3.6 Hume’s concern is to show that *the understanding* – the cognitive faculty – is not responsible for inductive inference. Then it is only to be expected that his main effort will go into proving that *rational argument* cannot ground such inference, and this makes it easy to misread his conclusion that induction “is not determin’d by reason” as saying that induction cannot be founded on *ratiocination* (when his intended point concerns *reason* – the cognitive faculty). Cf. note 23 below.

### 3.1 “Reason” and “the understanding” in Locke

Locke does indeed *sometimes* appear to use the faculty term “reason” in the way that Garrett and Owen suggest.<sup>19</sup> To the two passages quoted by Garrett one might add:

The greatest part of our Knowledge depends upon Deductions and intermediate *Ideas*: And in those Cases [where we achieve only probability rather than knowledge] we have need to find out, examine, and compare the grounds of their Probability. In both these Cases, the Faculty which finds out the Means, and rightly applies them to discover Certainty in the one, and Probability in the other, is that which we call Reason. (*Essay* IV xvii 2)

In the Discovery of, and Assent to these Truths [viz. those known intuitively], there is no Use of the discursive Faculty, *no need of Reasoning*, but they are known by a superior, and higher Degree of Evidence. (*Essay* IV xvii 14)

When the Agreement of any two *Ideas* appears to our Minds, whether immediately, or by the Assistance of Reason, ... (*Essay* IV xx 16)

However Locke also seems to use the term in a broader way that potentially covers all of the cognitive functions that enable us to discover truth, and so in particular embraces intuition as well as ratiocination:

*THE Word Reason* ... stands for a Faculty in Man, That Faculty, whereby Man is supposed to be distinguished from Beasts, and wherein it is evident he much surpasses them. (*Essay* IV xvii 1)

*Reason* is natural *Revelation*, whereby the eternal Father of Light, and Fountain of all Knowledge communicates to Mankind that portion of Truth, which he has laid within the reach of their natural Faculties: *Revelation* is natural *Reason* enlarged by a new set of Discoveries ... (*Essay* IV xix 4)

*Nothing that is contrary to, and inconsistent with the clear and self-evident Dictates of Reason, has a Right to be urged, or assented to, as a Matter of Faith* ... (*Essay* IV xviii 10)

But if they know it to be a Truth, they must know it to be so either by its own self-evidence to natural Reason; or by the rational Proofs that make it out to be so. (*Essay* IV xix 11)

The “clear and self-evident Dictates of Reason” can only refer to truths known by intuition rather than ratiocination. This is made absolutely clear in the last quotation above, when Locke explicitly distinguishes “self-evidence to natural Reason” from knowledge by means of “rational Proofs”.

If one of these two interpretations of “reason” has to be chosen as Locke’s “official” position, then I would certainly opt for the broader view, partly because this can at least avoid straightforward inconsistency with the passages quoted above. For on the one hand it is entirely consistent to refer to “reason” as our reasoning or discursive faculty, without thereby requiring that *reasoning* (in the sense of stepwise *ratiocination*) should be its *only* function. But on the other hand, limiting reason to ratiocination seems flatly inconsistent with the last two quotations above, which clearly imply that “natural Reason” is responsible for the recognition of self-evident, intuitive truths. Further evidence in the same direction can be gleaned from an early draft of the *Essay*, which seems even to deny that demonstration – accepted by all as a paradigm operation of reason – essentially involves ratiocination:

<sup>19</sup> Before announcing his intention to focus on the faculty term, Locke begins his chapter “Of Reason” by pointing out that “*THE Word Reason* in the *English Language* has *different Significations*: sometimes it is taken for true, and clear Principles: Sometimes for clear, and fair deductions from those Principles: and sometimes for the Cause, and particularly the final Cause.” (*Essay* IV xvii 1).

“we ... looke for noe greater certainty then what our eyes can afford us, the whole evidence of this assurance being noe more then what the word *Demonstration* doth naturally import; which is to shew any thing as it is & make it be perceived soe that in truth what we come to know this way is not by prooffe but intuition, all the prooffe that is used in this way of knowledg being noe thing else but shewing men how they shall see right ... without using arguments to perswade them that they are soe” (Locke 1671, p. 153)

This strongly suggests that if any operation has a claim to being essential to Lockean reason it is *perception* rather than ratiocination, something made equally clear by Locke’s main account of reasoning in the *Essay*:

*Inference* ... consists in nothing but the Perception of the connexion there is between the *Ideas*, in each step of the deduction, whereby the Mind comes to see, either the certain Agreement of Disagreement of any two *Ideas*, as in Demonstration, in which it arrives at Knowledge; or their probable connexion, on which it gives or with-holds its Assent, as in Opinion. ... For as Reason perceives the necessary, and indubitable connexion of all the *Ideas* or Proofs one to another, in each step of any Demonstration that produces Knowledge; so it likewise perceives the probable connexion of all the *Ideas* or Proofs one to another, in every step of a Discourse, to which it will think Assent due. ... [Where] the Mind does not perceive this probable connexion; where it does not discern, whether there be any such connexion, or no, there Men’s Opinions are not the product of Judgment, or the Consequence of Reason; but the effects of Chance and Hazard” (*Essay* IV xvii 2).<sup>20</sup>

However one might reasonably doubt whether there is *any* single “official” Lockean position on the faculty of “reason”, because as we shall see in §5.1 below, Locke’s attitude to the language of faculties is sceptical, even anti-realist. He is most explicit about this at *Essay* II xxi 17-20, where he forthrightly ridicules such language, criticises it as a source of philosophical error, and declares himself inclined to forego it completely were it not that faculty words are so much in fashion that “It looks like too much affectation wholly to lay them by”. Accordingly he seems to care little about where faculty boundaries are drawn or how they are named:

“the understanding, or reason, which-ever your lordship pleases to call it, makes or forms, out of the simple ones that come in by sensation and reflection, all the other ideas ...” (1697, pp. 70-1).

In this context, it can hardly be expected that Locke’s terminology will be thoroughly consistent, or that any strong interpretative conclusions can legitimately be drawn from its details.

### 3.2 “Reason” and “the understanding” in Hume’s contemporaries

We have seen that Locke’s usage provides little if any support for the claim of Garrett and Owen that he standardly uses the term “reason” to refer to the specific sub-faculty of *ratiocination* (rather than “the understanding” – our overall cognitive faculty). But given their claim that this interpretation was “common” and “traditional” in Hume’s day, we might expect to find confirming evidence in the works of Hume’s contemporaries. Obviously it is not possible here to survey a very wide range of authors and texts, so for the sake of convenience, but also (as before) to minimise any suspicion of biased selection, I shall confine myself to works included in Selby-Bigge’s collection *British Moralists*

<sup>20</sup> It is striking how Locke, while innovatively (and in contrast with Descartes) acknowledging the vital importance of probability, nevertheless attempts to force it into a perceptual model that has evidently been tailored to fit the more familiar case of demonstration. He thus reduces all *judgement* to *perception* of evidential connexions, which (as noted by Millican 2002, pp. 115-16) makes his treatment of *misjudgement* in *Essay* IV xx seriously problematic.

(1897), which is perhaps the most widely available source for other writers of the period. Since, moreover, Selby-Bigge characteristically added an analytical index to his collection, sceptical readers can easily check for themselves if they doubt that my selection is representative.

My first quotation is from Book II Part ii of Shaftesbury’s *An Inquiry concerning Virtue* (1699/1732),<sup>21</sup> at §48 in the Selby-Bigge collection:

It will be acknowledg’d that a Creature, such as Man, who from several degrees of Reflection has risen to that Capacity which we call Reason and Understanding; must in the very use of this his reasoning Faculty, be forc’d to receive Reflections back into his Mind of what passes in itself, as well as in the Affections, or Will ...

Note here the clear statement that “Reason” and “Understanding” are alternative names for the very same capacity. An equivalence between the two is also implicit in the following quotation from Section I of Hutcheson’s *Illustrations upon the Moral Sense* (1728/1742), at §450 in the Selby-Bigge collection:

Writers on these Subjects should remember the common Divisions of the Faculties of the Soul. That there is 1. *Reason* presenting the natures and relations of things, antecedently to any Act of *Will* or *Desire*: 2. *The Will*, or *Appetitus Rationalis*, or the disposition of Soul to pursue what is presented as good, and to shun Evil. ... Both these Powers are by the Antients included under the *Λόγος* or *λογικόν μέρος*. Below these they place two other powers dependent on the Body, the *Sensus*, and the *Appetitus Sensitivus*, in which they place the particular Passions: the former answers to the *Understanding*, and the latter to the *Will*. But the *Will* is forgot of late, and some ascribe to the *Intellect*, not only *Contemplation* or Knowledge, but *Choice*, *Desire*, *Prosecuting*, *Loving*.

In speaking of “the Understanding”, Hutcheson is clearly referring back to the faculty which he has previously called “Reason” – indeed the fact that he is so unconcerned about using these two names for the same faculty without even the slightest comment strongly suggests that an identification between them was thoroughly commonplace. For evidence that this remained the case over the period when Hume was writing, we can turn to Chapter I Section ii of Price’s *A Review of the Principal Questions in Morals* (1758/1787), at §§590-2 in the Selby-Bigge collection:

The power, I assert, that understands; or the faculty within us that discerns truth, and that compares all the objects of thought, and judges of them, is a spring of new ideas.

As, perhaps, this has not been enough attended to, and as the question to be discussed, is; whether our moral ideas are derived from the understanding or from a sense; it will be necessary to state distinctly the different natures and provinces of sense and reason.

... Sense presents particular forms to the mind; but cannot rise to any general ideas. It is the intellect that examines and compares the presented forms, that rises above individuals to universal and abstract ideas. ... Sense sees only the outside of things, reason acquaints itself with their natures. ... Feeling pain, for example, is the effect of sense; but the understanding is employed when pain itself is made an object of the mind’s reflexion ...

Like Hutcheson, Price seems perfectly content to refer to one and the same faculty not only as “reason” and “the understanding”, but also as “the intellect”. The supposed subtle distinction between the rational faculties appealed to by Garrett and Owen is quite invisible here.

<sup>21</sup> The dates are those of the first edition and of the edition used by Selby-Bigge, whose text I follow except in respect of the Hutcheson passage, which is taken from the 1742 third edition in which the relevant paragraph first appeared.

The same sources can also be used to strengthen the suggestion made earlier, that in so far as “reason” was understood by Locke and his successors to have any essential operation, this was *perception* rather than *ratiocination*.<sup>22</sup> Hutcheson, as we have seen, characterises reason as “presenting the natures and relations of things”. And here again is Price (from Selby-Bigge §593):

In a word, it appears that sense and understanding are faculties of the soul totally different: ... The one not discerning, but suffering; the other not suffering, but discerning; and signifying the soul’s Power of surveying and examining all things, in order to judge of them; which Power, perhaps, can hardly be better defined, than by calling it, in Plato’s language, the power in the soul to which belongs ... the apprehension of Truth.

As a final example, let us move away from the Selby-Bigge *Moralists* collection to what was arguably the most significant contemporary work in philosophical theology, and of particular interest to Hume, published only shortly before he returned from France with the manuscript of the *Treatise*. Both the identification of “reason” with “the understanding”, and the perceptual nature of that faculty, are implicit in the following passage from Butler’s *Analogy of Religion* (1736), Part I Chapter vi §19:

... as speculative reason may be neglected, prejudiced, and deceived, so also may our moral understanding be impaired and perverted ... This indeed proves nothing against the reality of our speculative or practical faculties of perception ...

So not only was the perceptual conception of reason that we saw in Locke still flourishing within British thought, but also, it was by no means confined to “rationalists” such as Price. Moreover this conception, as we shall see in §3.4, was closely linked with these philosophers’ view of *reason* as our comprehensive cognitive faculty, that is, *the understanding* by another name.

### 3.3 “Reason” and “reasoning”

The recently fashionable trend of interpreting Humean *reason* as a faculty devoted to *ratiocination* in particular, rather than rational activity in general, is not apparently based on either Locke’s usage or that of Hume’s contemporaries. Instead, it seems to be founded largely on Hume’s own statements of the conclusion of his famous argument. Thus Garrett (1997, p. 91) persuasively begins his seminal presentation with a sequence of quotations giving formulations of that conclusion from the *Treatise*, *Abstract*, and *Enquiry*, including phrases such as these (silently corrected here):

“’tis impossible for us to satisfy ourselves by our reason. ... We suppose, but are never able to prove ...” (T 1.3.6.11)

“... there is no argument, which determines me ... ’Tis not, therefore, reason ...” (A 15-16)

“... our conclusions from that experience are not founded on reasoning, or any process of the understanding” (E 4.15)

“What logic, what process of argument secures you against this supposition?” (E 4.21)

“... it is not reasoning which engages us to suppose the past resembling the future ... This is the proposition which I intended to enforce in the present section.” (E 4.23)

<sup>22</sup> The terminological equivalence between “reason” and “the understanding” also strongly corroborates this claim, since understanding is more a matter of intellectual perception or grasping of ideas than it is of inference.

These do indeed give the impression of implicitly identifying reason’s activities as *proof*, *argument*, and *reasoning*. Accordingly Noonan (1999, p. 119-21), referring to Garrett, approvingly dubs this the “literalist” interpretation, for taking these quotations quite literally.

In interpreting these passages, Garrett, Owen, and Noonan all assume – as most modern readers probably would – that when Hume talks of *proof*, *argument*, and *reasoning*, he intends to refer quite specifically to *stepwise* forms of inference. In that case, these quotations would indeed provide some prima facie evidence for their favoured interpretation of the famous argument, but even so this would not seriously undermine the case already made against their reading of Humean “reason”. For suppose that Hume, as I claim, followed his contemporaries in using “reason” to refer to our general intellectual faculty – embracing intuition and contemplation of perceptions as well as stepwise inference – but that he considered it *entirely obvious* that of these intellectual operations, only stepwise inference looked even remotely plausible as a source of rational support for induction. In such a situation, he would naturally devote his main energies to refuting that possibility, after which it would again be natural to express his conclusion in a way that focused on the absence of such a foundation in stepwise inference, *even if his ultimate point were more general*. So we might well expect to find him stating on some occasions that there is no *stepwise inference* to justify induction, and on other occasions that there is no *rational ground* whatever. That – apparently – is just what we do find.<sup>23</sup>

But in fact the position of Garrett, Owen and Noonan is even weaker than this suggests, because the quotations above do virtually nothing to support their interpretation. We might today read words like “argument”, “proof” and “reasoning” as clearly implying inference through intermediate steps, but there was no such implication in the eighteenth century. Johnson’s *Dictionary* (1756-99) gives as the first sense of the word “argument”:

*argument* “A reason alleged for or against any thing”,<sup>24</sup>

and he implicitly confirms that this is its primary sense in specifying as one of the *non-discursive* senses of “reason”:

*reason* “Argument; ground of persuasion; motive”.

Likewise the first sense of “proof” is given in 1756 as:

*proof* “Evidence; testimony; convincing token”,

supplemented in later editions by the clauses: “convincing argument; means of conviction”. Meanwhile all we learn about the word “reasoning” – apart from the note that it is etymologically derived from “reason” – is a single word definition:

<sup>23</sup> This line of thought gives the simplest explanation – with no need to suppose any change of mind – of why Hume at *Treatise* 1.3.6.4-6 considers only demonstrative and probable argument as rational means of proving the Uniformity Principle (cf. §5.3 below), while in the *Enquiry* he appears to give “reason” a broader interpretation.

<sup>24</sup> That this does *not* imply a *discursive* reason is confirmed by Johnson’s first example, from Dryden: “We sometimes see, on our theatres, vice rewarded, at least unpunished; yet it ought not to be an *argument* against the art.”



*reasoning* “Argument”.

This would seem to imply that *intuition*, as an activity of reason which supplies convincing grounds, must count as *reasoning*. And Johnson’s definition of the relevant sense of “intuition” and “intuitive” does nothing to alter this impression (my emphasis):

*intuition* “Knowledge not obtained by *deduction* of reason”;

*intuitive* “Having the power of discovering truth immediately without *ratiocination*”.

Note that these clauses do not say that intuition excludes *reasoning* (as one might expect them to do, if Garrett *et al.* were correct); they instead choose the less familiar words *deduction* and *ratiocination*. This hints at a distinction between these technical terms for stepwise inference on the one hand, and *argument*, *proof*, and *reasoning* on the other, with the latter three terms carrying no stepwise implication. Such a distinction is confirmed by the corresponding definitions,<sup>25</sup> and also corroborated by Hume’s own usage: he refers to “deductions” in contexts where stepwise argument is clearly intended (e.g. *T* 1.3.14.2, *E* 5.22, *M* 1.4), and he speaks once of “intuitive arguments” (*T* 1.3.14.35) and repeatedly of “intuitive proof” (*T* 2.3.2.2, *E* 8.2.2 n. 18, *HL* i 187). He also refers to a supposed intuitive “inference” at *E* 4.17, while *E* 4.1 clearly includes intuition as an “operation of thought”.<sup>26</sup>

To sum up, everything that we have seen so far confirms that *reason*, for Hume’s contemporaries, is an alternative name for *the understanding*, our comprehensive cognitive faculty. It now also appears that the cognate term *reasoning*, though today usually confined to stepwise ratiocination, had no such limitation at the time, and hence could perfectly well serve (as its etymology indeed suggests) as a generic term for the activities of that faculty.

### 3.4 Reason as the supreme cognitive faculty

To investigate more deeply the presumed role and nature of reason, let us now turn back to Hutcheson, who is of particular interest as a highly respected correspondent of Hume’s around the period of the *Treatise*, and is also, of all the authors considered in §3.2 above, the most explicit in spelling out the “common Divisions of the Faculties of the Soul” and their presumed structure. In the passage quoted earlier, he hints at this structure, which he discusses at far greater length in his Latin *Synopsis of Metaphysics* (also published in 1742). Most fundamentally, he divides the faculties into two broad domains, each of which “answers to” a predominant faculty. Within the first of these – the domain of *reason* (or *intellect*, or *the understanding*) – he places the *senses*, which he takes to include *internal*

<sup>25</sup> “To deduce” is defined in three clauses: “1. To draw in a regular connected series. 2. To form a regular chain of consequential propositions. 3. To lay down in regular order.” “Ratiocination” is defined in just one clause: “The act of reasoning; the act of deducing consequences from premises.”

<sup>26</sup> Also, of course, Hume’s own theory of inductive inference implies that it typically does not proceed in a stepwise manner, but essentially reduces to *conception* (see *T* 1.3.7.5 n. 20 in §2.1 above); yet he never hints that terms such as “argument”, “inference”, “proof” or “reasoning” are thereby rendered inappropriate to these transitions of thought. So it is hard to see how he could consistently refuse to apply them – on grounds of immediacy – to “intuitive inference”.

*sense or consciousness, reflexive or subsequent senses, and external senses*. Other faculties treated within the province of reason include *the imagination, memory, and ratiocination*, all of which assist reason “in presenting the natures and relations of things, antecedently to any Act of Will or Desire”.

Hutcheson’s second domain, accordingly, is that of *the will*, under which fall the operations of the mind pertaining to *action*, such as *choice, desires, aversions, and passions*. Thus his division between the domains of *reason* and *the will* is essentially the same as the modern distinction between *cognitive* and *conative* mental functions, a dichotomy whose fundamental nature is often now expressed in terms of a “direction of fit” between world and mind: *reason* aims to conform our beliefs to the way the world is, while *the will* aims to change the world to conform to our desires. Another characterisation is Reid’s (1785, 1788) distinction between the mind’s “intellectual” and “active” powers, but as Hutcheson himself is keen to stress, recognition of this fundamental division goes back to the ancients and was entirely commonplace in the early modern period, featuring in the writings of Descartes (e.g. the fourth *Meditation*), Locke (e.g. *Essay* II vi 2, II xxi 6) and countless others.

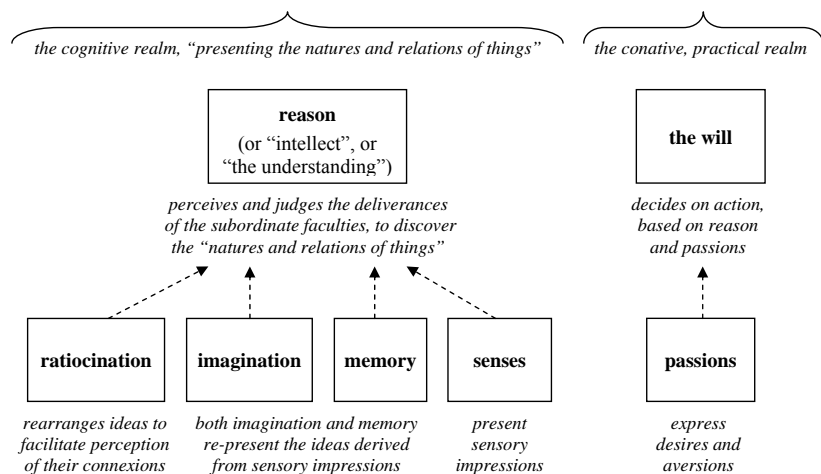
From this perspective, the role of *reason* (or *intellect*, or *the understanding*) is standardly taken to be *oversight* or *supervision* of the subordinate cognitive faculties: receiving their reports (e.g. the impressions of sense or recollections of memory) and making judgements accordingly. This is what Hutcheson means when he says that “The *senses* report to the *understanding*” (1744, p. 112).<sup>27</sup> And it clearly explains why reason’s most essential operation should be taken to be *intellectual perception* and *understanding* – examining the deliverances of the subordinate faculties and appreciating their force – rather than *ratiocination*. On this model, even the assessment of non-demonstrative evidence is reduced to the *perception* of evidential connections, a point made fully explicit by Locke (cf. note 20 above) but apparently presupposed by others. This reduction may seem very implausible to our eyes, but its obvious attraction to the early moderns is as a means of bringing everyday and scientific judgement – “reasonableness” – within the realm of reason as traditionally conceived: the realm of truth and falsehood where reason’s role can be straightforwardly understood as that of *perceiving* “the natures and relations of things”. On this conception, when complex reasoning is required to reach an appropriate judgement, it is not to be understood algorithmically in the fashion of Frege or Turing (as involving mental progression through a stepwise procedure), but rather as a process of rearrangement of ideas to facilitate the appropriate *perception*. This paradigm accounts for the passage quoted earlier from *Draft B* of Locke’s *Essay*, with its apparently paradoxical claim that demonstrative proof achieves knowledge “not by prooffe but intuition” (1671, p.153). And it is also clearly discernible in Locke’s account of reason in the *Essay* itself:

So that we may in reason consider these four degrees; the first and highest is the discovering and finding out of truths; the second, the regular and methodical disposition of them, and laying them in a clear and fit order, to make their connexion and force be plainly and easily perceived: The third is the perceiving their connexion; and the fourth, making a right conclusion. (*Essay* IV xvii 3)

<sup>27</sup> In the original Latin, “Ad *Intellectum*, referentur *Sensus*”.

Locke nevertheless treats such rearrangement of ideas as a genuine function of *reason*. Hutcheson appears to devolve it to a subordinate faculty of *ratiocination*, thus manifesting even more clearly his commitment to a perceptual conception of our primary rational faculty.

Summing up, here is a very simplified model of the overall faculty structure described by Hutcheson,<sup>28</sup> and taken by him to be commonly accepted.<sup>29</sup>



If *reason* plays this supervisory role, receiving and assessing the deliverances of our various other cognitive faculties to make judgements about “the natures and relations of things”, then it can appropriately be described in terms such as these:

- Locke: “Reason is natural Revelation, whereby [God] communicates to Mankind that portion of Truth, which he has laid within the reach of their natural Faculties”
- Hutcheson: “Reason is understood to denote our Power of finding out true Propositions”
- Hartley: “The *Understanding* is that Faculty, by which we ... pursue Truth, and assent to, or dissent from, Propositions.”
- Price: “reason ... [is] the power in the soul to which belongs ... the apprehension of Truth.”

The domain of reason thus encompasses all the faculties involved in our discovery of *truth*. On this use of the term, at least, Hume generally seems to be happy to follow the established tradition:<sup>30</sup>

<sup>28</sup> For a more detailed diagram of the structure given in Hutcheson’s *Synopsis*, and a brief comparison with Hume’s faculty structure, see the Appendix to this paper. Note in particular that Hutcheson’s view of the senses is far broader than Hume’s, accommodating such things as aesthetic and moral as well as external and internal senses.

<sup>29</sup> That the main faculty divisions recognised by Hutcheson were indeed commonly accepted in England as well as Scotland is illustrated by David Hartley’s *Observations on Man* (1749): “The Human Mind may also [together with the senses] be considered as indued with the Faculties of *Memory*, *Imagination* or *Fancy*, *Understanding*, *Affection* [Hume’s and Hutcheson’s “passions”], and *Will*. ... The *Understanding* is that Faculty, by which we contemplate mere Sensations and Ideas, pursue Truth, and assent to, or dissent from, Propositions.” (Vol. 1, p. iii).

1739: “Reason is the discovery of truth or falshood.” (T 3.1.1.9)

1757-77: “reason, in a strict sense, as meaning the judgment of truth and falsehood ...” (DOP 5.1)

But of course this whole perspective, based on a pervasive metaphor of intellectual *perception* by a supreme overseer of the cognitive faculties, sits rather uneasily with Hume’s own revolutionary account of *how reason operates*. For this ultimately reveals it to be – at least in some sense – a sub-faculty of the imagination, determined by brute instinctive mechanisms and the vivacity of ideas rather than by any quasi-angelic insight or “apprehension of Truth”. We shall return to this tension in Hume’s position later, after we have briefly reviewed his taxonomy of the faculties, the logic behind it, and those respects in which it conforms quite closely to the traditional picture sketched above.

#### 4. Reviewing Hume’s taxonomy of the faculties

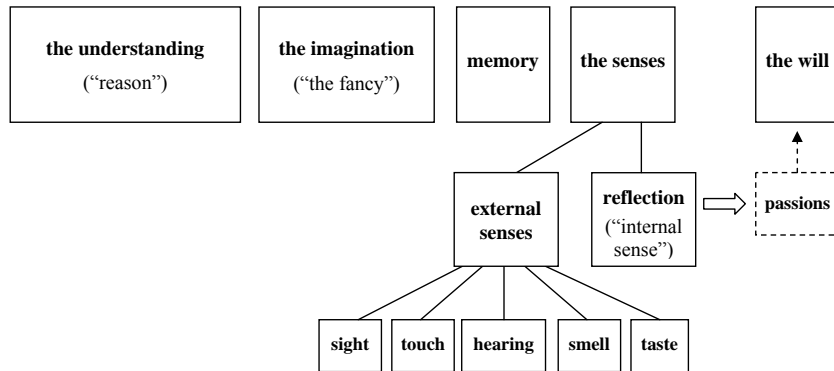
So far, our discussion has been largely dominated by the systematic collection of textual evidence, a strategy intended to minimise any risk of biased selection. In §2.2.1 we examined Hume’s use of explicit faculty language in the *Treatise*, enabling identification of the principal faculties that he recognises and, in particular, indicating strongly that he takes “reason” and “the understanding” to be one and the same. After sketching the resulting taxonomy in §2.2, we proceeded in §3 to take note of a major objection urged by Garrett and Owen, that Humean “reason” should be seen as a mere sub-faculty of “the understanding”, responsible only for ratiocination. Their interpretation purports to be based on contemporary and traditional usage, so we set out to examine the position of Locke’s *Essay* and to survey the relevant references in Selby-Bigge’s *British Moralists* collection. In §3.1, Locke’s faculty terminology proved to be somewhat inconsistent (not surprisingly given his own anti-realist view of faculties), but he seemed best interpreted as taking reason to be a *perceptual* faculty that embraces *intuition* as well as ratiocination. Then in §3.2 we found that Hume’s contemporaries – Shaftesbury, Hutcheson, Price, and Butler – took the same view less ambivalently. Thus the contemporary textual evidence for the “reason as ratiocination” interpretation turned out to be negligible, and so in §3.3 we took the opportunity to examine (and ultimately to dismiss) what seems to be the real basis of its recent popularity: namely, Hume’s use of words such as “argument” and “reasoning” in expressing the conclusion of his famous argument. We found that the standard eighteenth-century understanding of these words was broader than ours, allowing “reasoning” in particular to be used as the cognate verb of the faculty word “reason” as traditionally understood, embracing non-inferential rational grounds as well as ratiocination. Then in §3.4, we saw – through the detailed example of Hutcheson – how this general understanding of reason matched a picture of its role as the supreme cognitive overseer, perceiving the deliverances of the lesser cognitive faculties and

<sup>30</sup> The 1748 and 1750 editions of the *Enquiry* also contain a note to E 1.14, referring to “That Faculty, by which we discern Truth and Falshood ... the Understanding”, and quoted more fully in §4.1 below. Other passages that identify reason with the discovery of truth, though usually less explicitly, are at T 2.3.3.3, 2.3.3.5-6, 2.3.3.8, 3.1.1.4, 3.1.1.19 n. 69, 3.1.1.25-27, 3.2.2.20, M 1.7, M App 1.6, 1.21. It is striking that all of these occur in a context where Hume is contrasting *reason* (or *the understanding*) with conative rather than cognitive notions, thus corroborating its identification as *both* the faculty of “truth or falshood” *and* the overarching cognitive faculty.

on that basis making judgements about truth and falsehood. Traces of this picture are to be clearly found in Hume’s texts, though how far his position conforms to the assumptions behind it remains to be seen. Having now established and defended our overview of the Humean faculties on fairly narrow textual grounds, it is now time to move on to review it more deeply and to consider its wider philosophical significance: what is its basis in, and what light does it shed on, Hume’s philosophy?

#### 4.1 The cognitive/conative divide

Here again is the diagram of the Humean faculties from §2.2:



The biggest divide within this faculty structure, following the standard pattern, is between the general domains of “the understanding” and “the will”. This divide is clearly reflected in the titles of the first two books of the *Treatise* – “Of the understanding” and “Of the passions” – and Hume fully accepts the fundamental distinction thus implied, between the *cognitive* and *conative* operations of the mind.<sup>31</sup> Indeed he follows it through far more strictly than most of his contemporaries, insisting (as we saw at the end of §2) that reason alone cannot possibly motivate action independently of the passions. It is precisely in the context of this insistence that Hume aligns himself most closely with the traditional view of reason as the faculty that apprehends truth. The two Humean quotations given at the end of §3.4 above continue as follows:<sup>32</sup>

Reason is the discovery of truth or falshood. Truth or falshood consists in an agreement or disagreement either to the *real* relations of ideas, or to *real* existence and matter of fact. Whatever, therefore, is not

<sup>31</sup> At *E* 1.14, Hume cites the distinction between will and understanding as the first of “many obvious distinctions ... which fall within the comprehension of every human creature”.

<sup>32</sup> See also *T* 2.3.3.5-6, where Hume denies that a passion can “be contradictory to truth and reason”, and *T* 3.1.1.15, where he denies that an action can be “contrary to truth and reason”. Rachel Cohon (2008), pp. 69-70 notes this feature of Hume’s language in his famous argument for the inertness of reason, and its oddity when viewed from the perspective of David Owen’s interpretation of Humean “reason” as *reasoning* (which she nevertheless espouses). The oddity vanishes, and the straightforwardness of Hume’s argument becomes evident, once it is realised that “reason” here is simply a reference to *cognition*: discovery of what is the case, independent of any *conative* influence.

susceptible of this agreement or disagreement, is incapable of being true or false, and can never be an object of our reason. Now ’tis evident our passions, volitions, and actions, are not susceptible of any such agreement or disagreement; being original facts and realities, compleat in themselves, and implying no reference to other passions, volitions, and actions. ’Tis impossible, therefore, they can be pronounc’d either true or false, and be either contrary or conformable to reason. (*T* 3.1.1.9)

It seems evident, that reason, in a strict sense, as meaning the judgment of truth and falsehood, can never, of itself, be any motive to the will, and can have no influence but so far as it touches some passion or affection. *Abstract relations* of ideas are the object of curiosity, not of volition. And *matters of fact*, where they ... neither excite desire nor aversion, are totally indifferent ... What is commonly, in a popular sense, called reason, and is so much recommended in moral discourses, is nothing but a general and a calm passion, which takes a comprehensive and a distant view of its object, and actuates the will, without exciting any sensible emotion. (*DOP* 5.1-2; cf. *T* 2.3.3.3, *M* 1.7)

Here Hume’s use of “reason” is clearly as a conventional reference to the *cognitive* domain – the domain of truth and falsehood – and for precisely the purpose of drawing a contrast with the *conative*: the domain of the will and passions.

Despite Hume’s apparent confidence in his strict division between these two domains, however, a significant underlying tension emerges if we critically examine the boundary between them. For although he aligns the *passions* with *the will* within the conative domain, he nevertheless classifies them, within his inventory of the furniture of the mind, as *impressions* of internal sense (*T* 2.1.1, 2.3.1.1), which most naturally belong on the opposite side. This mismatch fuels familiar difficulties regarding his controversial claim quoted above from *Treatise* 3.1.1.9, that passions and volitions are “original facts and realities, complete in themselves, and implying no reference to other passions, volitions, and actions”. Viewing them as bare internal impressions (e.g. on the model of a feeling of physical pain or tiredness) does indeed suggest this picture, but their conative nature seems on the contrary to *require* that they have representative content (e.g. a desire has to be a desire *for* something). Moreover when Hume famously goes on to argue that because the passions are “complete in themselves”, they cannot “be pronounced ... either contrary or conformable to reason”, it seems to be the *direction of fit* of their representative content that is doing the crucial work, rather than their total lack of such content.<sup>33</sup> Perhaps it was his realisation of this tension within his geography of the faculties – and the related impoverishment of his view of “reflection” as an internal sense – that led him to drop this famous argument when “recasting” the *Treatise* into his later works. Its ghost remains within the passage quoted above from the *Dissertation on the Passions*, but in a form that appeals to everyday observation of our indifference to truths that “neither excite desire nor aversion”, rather than to the principled distinction between the cognitive and the conative.

Another, more creative, tension across the same divide – and one of Hume’s most abidingly important doctrines – involves the place of *taste*. Both morality and aesthetics involve *sentiments* or *passions*, and are able to motivate: hence they ought to lie firmly on the conative side. But both also

<sup>33</sup> Hume’s earlier presentation of the argument, at *T* 2.3.3.5, hints at a recognition that direction of fit is the issue, when saying that a passion “contains not any representative quality, which renders it a *copy* of any other existence or modification ... contradiction [to truth and reason] consists in the disagreement of ideas, *consider’d as copies*, with those objects, which they represent” (my emphasis).

seem to involve judgement against a standard, thus giving the potential for apparent truth or falsehood, and Hume is anxious not only to explain this phenomenon but also in some sense to *vindicate* it (so a crude error theory will not do). However his faculty framework seemingly frustrates this aim: reason as “the discovery of truth or falsehood” lies on one side of the chasm, the sentiments and passions on the other. Hume’s answer, therefore, is to invent a new faculty to bridge the two. Taste becomes “a *productive faculty*”, generating an artificial system of values, and it is correspondence with this “new creation” which can then serve as the appropriate standard of moral and aesthetic judgement:

Thus the distinct boundaries and offices of reason and of taste are easily ascertained. The former conveys the knowledge of truth and falsehood: The latter gives the sentiment of beauty and deformity, vice and virtue. The one discovers objects, as they really stand in nature, without addition or diminution: The other has a productive faculty, and gilding or staining all natural objects with the colours, borrowed from internal sentiment, raises, in a manner, a new creation. (*M App* 1.21)

This strong emphasis on identification of the faculty of taste – with its peculiar bridging position – dominates both the first section and the first appendix of the *Moral Enquiry*. It also features in a revealing footnote from the 1748 and 1750 editions of the first *Enquiry*, where Hume is looking for a paradigm example to illustrate the value of his “mental geography”:

That Faculty, by which we discern Truth and Falshood, and that by which we perceive Vice and Virtue had long been confounded with each other, and all Morality was suppos’d to be built on eternal and immutable Relations, which to every intelligent Mind were equally invariable as any Proposition concerning Quantity or Number. But a \* late Philosopher has taught us, by the most convincing Arguments, that Morality is nothing in the abstract Nature of Things, but is entirely relative to the Sentiment or mental Taste of each particular Being; in the same Manner as the Distinctions of sweet and bitter, hot and cold, arise from the particular Feeling of each Sense or Organ. Moral Perceptions therefore, ought not to be clas’d with the Operations of the Understanding, but with the Tastes or Sentiments. (*E* 1.4 n., 1748-50)

The asterisked note credits “Mr. *Hutcheson*” with this important discovery. Whether Hutcheson would have been pleased to have it credited to him in quite these terms is another matter, given his view that we have a “sense of the fitting and the good” which lies squarely within the domain of the understanding. But the way in which Hume himself presents the discovery once again confirms his readiness to align himself with what we have seen to be the standard view of *reason* or *the understanding* as “That Faculty, by which we discern Truth and Falshood”.

## 4.2 Reason as *successful cognition*

In the passages quoted in the previous section, Hume’s references to *reason* focus on a contrast with *passion* and *the will*, thus distinguishing between the *cognitive* and the *conative*. In such contexts, therefore, *reason* for Hume often appears to be simply the domain of truth and falsehood, of judgements and beliefs, with truth and falsehood being viewed equivalently and hence with no regard for whether or not those judgements and beliefs are *rational*:

Reason is the discovery of truth or falshood. Truth or falshood consists in an agreement or disagreement either to the *real* relations of ideas, or to *real* existence and matter of fact. Whatever, therefore, is not susceptible of this agreement or disagreement, is incapable of being true or false, and can never be an object of our reason. (*T* 3.1.1.9)

However it is significant that when Hume talks in this sort of way (cf. note 30 above), he almost invariably either describes reason as *discerning* or *discovering* truth, or else pairs “truth and reason” together. So such passages are entirely consistent with the common-sense thought that reason is normatively connected with *successful* discernment and discovery, with *truth* rather than mere *truth-aptness*. It is simply that when the crucial comparison for Hume’s current purposes is between the *cognitive* and the *conative* – as in his philosophy of action and morality – the question of the truth or rationality (or otherwise) of beliefs and judgements is quite irrelevant to his point. It is then sufficient to insist that motivation to action is *conative*, requiring a *passion*, and that no belief or judgement – however true, false, rational or irrational it may be – implies a passion.<sup>34</sup>

In Hume’s two other most famous arguments that involve the exclusion of reason from some key role, namely those concerning induction and the external world, it seems clear that a normative conception of reason – one that implies *success* in the discovery of truth, or at least *rationality* – is in play. Here first are some relevant passages from the *Treatise* discussion of induction:

If reason determin’d us, it wou’d proceed upon [the Uniformity Principle]. In order therefore to clear up this matter, let us consider all the arguments, upon which such a proposition may be suppos’d to be founded, and as these must be deriv’d either from knowledge or probability, let us ... see whether they afford any *just* conclusion of this nature. (*T* 1.3.6.4, my emphasis)

Shou’d any one think to elude this argument; and ... pretend that all conclusions from causes and effects are built on *solid* reasoning: ... ’Twere easy for me to show the *weakness* of this reasoning, ... Your appeal to past experience ... can never *prove*, that the same power must continue ... which clearly *proves*, that the foregoing reasoning had no *just* foundation. (*T* 1.3.6.8-10, my emphasis)

Thus not only our reason *fails us in the discovery* of the ultimate connexion of causes and effects, but even after experience ... ’tis impossible for us to *satisfy ourselves by our reason*, why we *shou’d* extend that experience ... We suppose, but are never able to *prove*, that there must be a resemblance [between observed and unobserved]. ... Reason can never *show us* the connexion of one object with another, tho’ aided by experience ... (*T* 1.3.6.11-12, my emphasis)

Likewise from the *Enquiry* discussion of induction:

To endeavour ... the *proof* of [the Uniformity Principle] by probable arguments ... must be evidently going in a circle, and taking that for granted, which is the very point in question. (*E* 4.19, my emphasis)

To say [the inference from past instances to future instances] is experimental, is begging the question. ... It is impossible, therefore, that any arguments from experience can *prove* this resemblance of the past to the future, since all these arguments are founded on the supposition of that resemblance. Let the course of things be allowed hitherto ever so regular; that alone ... *proves not*, that, for the future, it will continue so. (*E* 4.21, my emphasis)

we conclude ... that, in all reasonings from experience, there is a step taken by the mind, which is not *supported* by any argument or process of the understanding. (*E* 5.2, my emphasis)

Hume’s repeated references in these passages to what can be *proved*, concluded *justly* or *supported* by

<sup>34</sup> This is not to say, of course, that the formation or contemplation of a belief or judgement cannot *cause* a passion to arise in us: as Hume was fond of insisting, in principle anything could cause anything, and causation is determined purely by constant conjunction. (Which implies, however, that fundamentally only *events* can be causes or effects, something that he blurs in the *Treatise* with his talk of “objects”, but appears to recognise more in the *Enquiry*: see *E* 4.9, 6.4, 7.21-30, and 8.5.) Hume’s main point in passages such as *T* 3.1.1.9 does not concern *causal* relations between beliefs and passions, but seems rather to be that what we might call the *propositional content* of the belief or judgement – that which is susceptible of truth or falsehood – is logically quite distinct from any conative state.

*solid* reasoning, and so forth, clearly evince a normative understanding of reason, as a faculty which by its very nature is incapable of yielding fallacious arguments or weak reasoning.

Normativity is even more explicit in the *Treatise* section on “scepticism with regard to the senses”, at the point where Hume – having eliminated *the senses* as the source of our belief in body – goes on to eliminate *reason*:

... we can attribute a distinct continu'd existence to objects without ever consulting REASON, or weighing our opinions by any philosophical principles. ... Accordingly we find, that all the conclusions, which the vulgar form on this head, are directly contrary to those, which are *confirm'd by philosophy*. For ... the vulgar confound perceptions and objects, and attribute a distinct continu'd existence to the very things they feel or see. This sentiment, then, *as it is entirely unreasonable, must proceed from some other faculty than the understanding*. ... Even after we distinguish our perceptions from our objects, 'twill appear presently, that we are still *incapable of reasoning* from the existence of one to that of the other: So that upon the whole our reason neither does, nor is it possible it ever shou'd ... give us an assurance of the continu'd and distinct existence of body. That opinion must be entirely owing to the IMAGINATION ... (T 1.4.2.14, my emphasis)

The middle sentences of this quotation are expanded on later in the same section:

the vulgar suppose their perceptions to be their only objects ... Now upon that supposition, *'tis a false opinion* that any of our objects, or perceptions, are identically the same after an interruption; *and consequently* the opinion of their identity *can never arise from reason* ... (T 1.4.2.43, my emphasis)

The only conclusion we can draw from the existence of one thing to that of another, is by means of the relation of cause and effect ... But as no beings are ever present to the mind but perceptions; it follows that we may observe a conjunction or a relation of cause and effect betwixt different perceptions, but can never observe it betwixt perceptions and objects. 'Tis impossible, therefore, that from the existence or any of the qualities of the former, we can ever form any conclusion concerning the existence of the latter, or ever *satisfy our reason* in this particular. (T 1.4.2.47, my emphasis)

These passages rule out reason as being the source of various opinions on the grounds that they are “contrary to ... philosophy”, “entirely unreasonable”, “incapable of [being established by] reasoning”, or even simply “false”. Hence, again, it seems that Hume is here treating reason as a faculty which is not merely concerned with the domain of truth and falsehood; rather, it looks as though anything that is the offspring of reason must, ipso facto, be *true*, or at least *rationally warranted*.

This normative understanding conforms exactly with what might be expected from the preceding philosophical tradition, which as we saw in §3.1-4 took reason to be a *perceptual* faculty, whose operation involves (genuine) *apprehension* of truths and of evidential connections between the ideas supplied by the subordinate cognitive faculties. But such a treatment might seem to be violently at odds with Hume's own philosophy which rejects this perceptual model: how can he be so sure, apparently on the basis purely of an a priori understanding of reason's nature, that it can only deliver truth rather than falsehood, rationality rather than folly? As we shall soon see, the key to answering this question is that Hume's faculty attributions are generally to be understood in *functional* terms.

### 4.3 The senses, memory, and imagination

The overall shape of Hume's treatment of the faculties that yield impressions and ideas – the materials of our thoughts – is determined fairly straightforwardly by the theory that he spells out in the first few

sections of the *Treatise*. He starts by explaining the difference between his two species of *perceptions: impressions* “enter [our mind] with most force and violence”, and “comprehend all our sensations, passions and emotions, as they make their first appearance in the soul”, whereas *ideas* are “the faint images of these in thinking and reasoning” (T 1.1.1.1). He then goes on to argue that ideas are quite literally “images” of impressions, in that they are all entirely composed of impression-copy content, a conclusion encapsulated in his famous Copy Principle (T 1.1.1.7). Next, Hume itemises the different types of impression, stating that they can arise either from the *external senses – sight, touch, hearing, smell, taste* – or from *reflection* (T 1.1.2.1). The role of the senses, both external and internal, is thus to supply the impressions – and thereby to generate the ideas – that populate our mind. Once acquired, these ideas can be presented in our thought “after two different ways”, by either the *memory* or the *imagination* (T 1.1.3.1), with memory being “restrain'd to the same order and form with the original impressions” (T 1.1.3.2), whereas the imagination has “*liberty ... to transpose and change its ideas*” (T 1.1.3.4). Another important distinction between these faculties is that “the ideas of the memory are much more lively and strong than those of the imagination, and ... the former faculty paints its objects in more distinct colours” (T 1.1.3.1). This anticipates the crucial part played by “force and vivacity” in Hume's theory of belief, as begins to emerge at T 1.3.5.3-7 where he contrasts “the impressions of the senses and memory” (*sic.*) with the ideas of the imagination.

Although the imagination – in contrast to the memory – has freedom to separate “all simple ideas”, and to unite them “again in what form it pleases” (T 1.1.4.1), nevertheless Hume quickly goes on to stress that its operations are “guided by some universal principles”, namely, the principles of association of ideas, which are destined to play a major role in the remainder of the *Treatise*:

The qualities, from which this association arises, and by which the mind is after this manner convey'd from one idea to another, are three, *viz.* RESEMBLANCE, CONTIGUITY in time or place, and CAUSE and EFFECT. ... These are therefore the principles of union or cohesion among our simple ideas, and in the imagination supply the place of that inseparable connexion, by which they are united in our memory. 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 show itself in as many and as various forms. (T 1.1.4.1, 6)

Accordingly, in his later discussions Hume will sometimes treat the attribution of some operation to the imagination as virtually equivalent to saying that it depends on such associative principles, most notably in his argument concerning induction:<sup>35</sup>

... the next question is, whether experience produces the idea by means of the understanding or imagination; whether we are determin'd by reason to make the transition, or by a certain association and relation of perceptions? (T 1.3.6.4, cf. 1.3.6.12)

The association of ideas also features strongly amongst the processes of the imagination that are involved in the genesis of the belief in body (e.g. T 1.4.2.22, 34, 37). But in this complex account Hume makes considerable appeal to another process which is likewise attributed to the imagination:

<sup>35</sup> The next quotation seems to regard reason and the imagination as alternative *agents* of causal inference, but note that elsewhere Hume usually speaks of *custom acting on the imagination* in such inference (e.g. T 1.3.8.12, 1.3.13.11, 1.3.14.31; E 5.11). The imagination is presented as taking a far more active role in *Treatise* 1.4.2.

namely, the supposition of *fictions*, which enables us to “feign” a real existence connecting together our interrupted (but associated) perceptions (e.g. *T* 1.4.2.24, 36, 42), even in spite of such fictions’ manifest incoherence (e.g. *T* 1.4.2.43, 52). These two types of imaginative process are closely related, because what generates a fiction is the transference of force and vivacity through associative processes. And quite generally, Hume tends to characterise any operation involving the vivacity of ideas as belonging to the imagination, as when he says in the final section of Book I that “*The memory, senses, and understanding are ... all of them founded on the imagination, or the vivacity of our ideas*”. (*T* 1.4.7.3).

By the time Hume has reached the end of Book I, of course, he has already concluded – notoriously – that a wide range of important mental operations do indeed depend on the vivacity of ideas, and on associative causal principles that convey such vivacity, rather than on any perception of rational connections between ideas. Thus the imagination, with its associative behaviour that Locke had characterised as a “sort of Madness” (*Essay* II xxxiii 3), turns out to be the most significant faculty in Hume’s cognitive theory. Nor is this at all surprising, for it is only to be expected once reason’s pretension to supremacy has been denied. A strict empiricist about ideas, who takes them all to be copies – and thus *images* – of impressions, is almost compelled to give a major role to the faculty whose very name – *imagination* – alludes to the re-presentation of such ideas.<sup>36</sup> Within the traditional taxonomy of the faculties, the imagination is the only possible source that an empiricist can assign for non-rational causal connexions between ideas.

We have now seen how Hume’s understanding of the senses, memory and imagination all flow straightforwardly from the principles outlined in the first few sections of the *Treatise*, with each of them playing a clear role in his theory of cognition:

- The senses* Present impressions to the mind (thus creating ideas which copy them).
- Memory* Replays ideas vivaciously, reflecting their original order.
- Imagination* Replays ideas less vivaciously, with freedom to transpose and mix them, but typically determined by associative causal principles.

Note that all of these faculties are identified here in *functional* terms: the senses, for example, appear to be *by definition* those aspects of our mental economy that provide a source of impressions. Our earlier discussion suggests that *reason* (or *the understanding*) and *will* can also be characterised in functional terms, at least when Hume is following the pattern of his predecessors:

<sup>36</sup> “Imagination” was traditionally understood (for example by Descartes) as a faculty of sensory *images*, dealing with ideas that are derived from the material body as opposed to those that are purely intellectual. Hume’s Copy Principle empiricism denies that there are any such intellectual ideas; for an illuminating discussion of these matters, see Garrett (1997) chapter 1.

- Reason* The overall cognitive faculty: discovers and judges truth and falsehood, utilising the resources provided by the other cognitive faculties.
- Will* The conative faculty: forms intentions in response to desires and passions.

If this were the whole story, it would provide a picture of the faculties broadly similar to Hutcheson’s. But with Hume, inevitably, things are nothing like this simple.

## 5 Faculty functions and paradigms

The outstanding problem comes when we try to make sense of the relationship between *reason* and *the imagination* within this structure. On the one hand, as we have seen at length above, Hume talks of “reason” or “the understanding” in distinction from “the will”, as indicating our general *cognitive* faculty, and this traditional usage – like the Book division of the *Treatise* which reflects it – appears to suggest that he sees *the understanding* as an umbrella concept covering the entire faculty structure apart from *the will*. On the other hand, Hume’s detailed account of our intellectual faculties notoriously reduces them to operations of the vivacity of ideas, and hence of *the imagination*, a point emphasised by the long footnote from *T* 1.3.7.5 discussed in §2.1 above, and by a well-known passage (already partially quoted in §4.3) from the conclusion of Book I:

This error consists in the vulgar division of the acts of the understanding, into *conception, judgment* and *reasoning*, and in the definitions we give of them. ... What we may in general affirm concerning these three acts of the understanding is, that taking them in a proper light, they all resolve themselves into the first, and are nothing but particular ways of conceiving our objects. (*T* 1.3.7.5 n. 20)

... Without this quality, by which the mind enlivens some ideas beyond others (which seemingly is so trivial, and so little founded on reason), we cou’d never assent to any argument, nor carry our view beyond those few objects, which are present to our senses. Nay, even to these objects we cou’d never attribute any existence, but what was dependent on the senses; and must comprehend them entirely in that succession of perceptions, which constitutes our self or person. Nay farther, even with relation to that succession, we cou’d only admit of those perceptions, which are immediately present to our consciousness, nor cou’d those lively images, with which the memory presents us, be ever receiv’d as true pictures of past perceptions. *The memory, senses, and understanding are, therefore, all of them founded on the imagination, or the vivacity of our ideas.* (*T* 1.4.7.3, my emphasis)

It seems, then, that a faculty structure genuinely reflecting Hume’s theory of the mind would have to place *the imagination* rather than *reason* or *the understanding* as the overarching cognitive faculty. Why, then, does he continue so often to speak of “the understanding” as though it played this role, and vacillate so indecisively between the traditional language and his own novel account?:

... the understanding or imagination can draw inferences from past experience ... (*T* 1.3.8.13)

... the judgment, or rather the imagination ... (*T* 1.3.9.19)

... the imagination or understanding, call it which you please ... (*T* 2.3.9.10, also *DOP* 1.8)

... my senses, or rather imagination ... (*T* 1.4.2.56)

... the understanding, that is, ... the general and more establish’d properties of the imagination (*T* 1.4.7.7)

One part of the answer – clearly exemplified by the passages quoted in §4.1 above – is that Hume’s use of faculty language, at least within the arguments that he uses to establish his novel theory, must

reflect not the contours of that finished theory, but rather the position from which his arguments *begin*. He must therefore use terms in a way that is familiar to *the audience* whom he wishes to persuade, employing notions of “reason”, “imagination” and so forth that are not entirely his own. But there is also another factor that helps to explain the awkwardness of Hume’s language, and which becomes apparent if we consider the somewhat paradoxical nature of his investigation, given the context of his functional understanding of the faculties.

## 5.1 Faculties, functions, and “distinct agents”

We have seen that for Hume, as for his contemporaries, the faculties are naturally to be identified in functional terms: thus *sight*, for example, is understood *by definition* to be the faculty that presents visual impressions (as) of external objects, and *memory* is *by definition* the faculty that “replays” ideas to us in a pattern that (apparently) reflects our recollection of previous experience. As the parentheses here indicate, sceptical questions can potentially be raised about whether our sight or memory is *reliable*: whether there really are external objects matching our visual impressions, or whether what we seem to remember really occurred.<sup>37</sup> But there does not seem to be room for any legitimate question about whether those faculties have been correctly *identified*: it would be absurd, for example, to maintain that previous philosophers have made a mistake here, and that actually it is our faculty of sight that recalls previous experience.

It follows from this that such assignment of mental operations to faculties cannot properly be regarded as providing any *explanation* of those operations; at best, it makes a modest contribution to “mental geography, or delineation of the distinct parts and powers of the mind” (E 1.13). Hume himself was well aware of this, forcefully criticising scholastic Aristotelians for disguising their ignorance through

their invention of the words *faculty* and *occult quality*. ... They need only say, that any phaenomenon, which puzzles them, arises from a faculty or an occult quality, and there is an end of all dispute and enquiry upon the matter. (T 1.4.3.10)

In the *Dialogues*, Philo illustrates the same point with examples:<sup>38</sup>

It was usual with the PERIPATETICS, ... when the cause of any phaenomenon was demanded, to have recourse to their *faculties* or *occult qualities*; and to say, for instance, that bread nourished by its nutritive faculty, and senna purged by its purgative: But it has been discovered, that this subterfuge was nothing but the disguise of ignorance; and that these philosophers ... really said ... that they knew not the cause of these phaenomena. (D 162)

Such criticism was not by any means original with Hume. In his 1673 play *Le Malade Imaginaire*, Molière famously ridiculed the doctor who responded to the question “What is the cause and reason,

<sup>37</sup> Hume in the *Treatise* acknowledges that memory can be defective or imperfect (T 1.1.3.3), but then goes on to attribute false “memories” to the imagination rather than the memory itself (T 1.3.5.5), suggesting a more rigorously functional conception. A similar pattern may be detectable in the *Enquiry*: compare E 9.5 n. 20 and 10.5 with E 2.2.

<sup>38</sup> Note also T 1.3.14.7, which emphasises that “these ... faculties, are not in reality any of the known properties of bodies, but are perfectly unintelligible and inexplicable.”

why opium makes one sleep?” with the answer “Because it contains a *dormitive virtue*, whose nature is to make the senses soporific”. And Locke was similarly dismissive:

“the fault has been, that Faculties have been spoken of, and represented, as so many distinct Agents. For it being asked, what it was that digested the Meat in our Stomachs? It was a ready, and very satisfactory Answer, to say, That it was the *digestive Faculty*. ... What moved? The *Motive Faculty*: And so in the Mind, the *intellectual Faculty*, or the Understanding, understood; and the *elective Faculty*, or the Will, willed or commanded: which is in short to say, That the ability to digest, digested; ... and the ability to understand, understood. For *Faculty*, *Ability*, and *Power*, I think, are but different names of the same things: Which ways of speaking, when put into more intelligible Words, will, I think, amount to thus much; That digestion is performed by some thing that is able to digest; ... and Understanding by some thing able to understand.” (Essay II xxi 20)

Locke sees talk of faculties as both unilluminating and misleading, tolerating such terms only because of “their place in the common use of Languages, that have made them currant”, in view of which “It looks like too much affectation wholly to lay them by” (*ibid.*). So he is, in a sense, anti-realist about faculties: talk of a faculty is not talk of a *thing* or *agent*, but rather of a *power* or *capacity*.

Given Hume’s account of causation, he has even more reason than Locke to avoid reifying the faculties as though they were “so many distinct agents”: possessing a faculty, for him, ought ultimately to reduce to the relevant operations taking place in an appropriately law-like manner. But how, then, are we to understand his faculty attributions? It seems clear that the mental faculties he discusses are indeed definable only in functional terms: our *memory*, for example, can only be understood as being that aspect of our mental economy which is responsible for *remembering*, because we cannot pick it out as a “distinct agent” or entity (e.g. a physical part of the brain) in any other way.<sup>39</sup> But then to say that mental operation *X* is due to our faculty of *X-ing* seems vacuous, while to say that *X* is due to some other faculty *Y* seems almost self-contradictory.<sup>40</sup>

This dilemma seems to apply very straightforwardly to Hume’s famous arguments concerning induction and the senses. Thus we have a faculty of *reason*, which apparently encompasses *by definition* whatever aspects of our mental economy are involved in intellectual activities leading to “the discovery of truth and falsehood”, of which inference is generally reckoned to be a paradigm.<sup>41</sup> We also have a faculty of *the senses*, which presumably encompasses *by definition* whatever aspects of our mental economy are associated with sensory awareness. But then it seems to follow *by definition* that “inference from the impression to the idea”, like all other inference that we use for “the discovery of truth and falsehood”, *must be* “determined by” or “owing to” (T 1.4.2.14) our faculty of reason.

<sup>39</sup> Contrast the case of our ears, which can be physically identified quite easily whether or not they are performing their usual function. Faculties, unlike physical organs, cannot be identified independently of their function.

<sup>40</sup> Again, contrast the attribution of our sense of balance to our organs of hearing, which makes sense because our (independently identifiable) ears turn out to have more than a single function.

<sup>41</sup> Of course Garrett and Owen would claim that inference is reason’s *only* paradigm activity, but the problem addressed here does not depend on such a restricted view of its functions. Note that they do not interpret reason as “determining” our inferences in general: on their accounts, it is only *inference-caused* or *mediated* inferences that are “determined by reason”. The points to follow make this claim seem very problematic, but Garrett and Owen both require it in order to sustain their interpretations of Hume’s conclusion concerning induction, which crucially depend on a significant distinction between those inferences that are “determined by reason” and those that are not.

Reason is a *faculty*, hence a *power*,<sup>42</sup> and if we ask what effects this power is associated with, then *inferences to matter of fact* will be one obvious – if almost vacuous – answer (demonstrative inference will be another). But then how could it possibly be, as Hume is apparently claiming, that inductive inference is not determined by that very faculty which encapsulates our power of inference? Likewise, from this point of view, it might well seem absurd to deny, as Hume apparently does, that our sensory beliefs in “the continu’d and distinct existence of body” are due to “the senses”.

## 5.2 Sub-processes and faculty paradigms

Hume’s procedure is evidently intended to be neither vacuous nor absurd, and its real point becomes clear if we look in a bit more detail at the results that he takes it to achieve. In the case of induction, he shows that inference from past to future crucially involves a process of extrapolation that cannot be independently justified by anything within our cognitive grasp. This crucial step is instead founded on a type of associative process, whereby past experience causes certain ideas about the future to be enlivened into beliefs. Likewise in the case of the external world, he argues that our belief in the continued and distinct existence of body depends crucially on various associative and related processes, notably those that involve the construction of “fictions”.

All well and good, but how, one might reasonably ask, can this dispel the air of paradox associated with Hume’s claim that the mind’s inductive behaviour “is not determin’d by reason” (*T* 1.3.6.12)? Suppose he is correct that the underlying mental mechanism whereby we perform inductive inferences involves some associative process of the type he describes: surely all this means is that our faculty of *reason* – the faculty which, by definition, is the source of our inductive inferences – must *itself* incorporate such an associative process. Likewise with his claim about our belief in external objects: at most he seems to have shown that our sensory faculties *themselves* incorporate a process of association (and of fiction-formation etc.). But then he presumably has no basis for assigning all these associative processes to the imagination in particular, *in preference* to reason or the senses. Seen from this perspective, therefore, Hume’s way of assigning processes to faculties still appears fundamentally confused. He seems to be treating faculties in precisely the way that Locke decried – as “so many distinct agents” – as though the reasoning faculty or the sensory faculty, unable by themselves to perform inductive inferences or to establish the belief in body, were forced to call in the help of the imaginative faculty to lend a hand.

Fortunately the solution to all this becomes fairly straightforward once we recognise that Hume’s talk of faculties, like that of Locke, can only be interpreted – on his own principles (cf. §5.1) –

<sup>42</sup> See for example *E* 1.13–14 for the equation of “faculties” with “powers”, and also *T* Intro.4, 1.3.10.9. The same equation is repeatedly found in Locke, e.g. “The power of thinking is called the understanding, and the power of volition is called the will; and these two powers or abilities in the mind are denominated faculties.” (II vi 1; see also II xxi 20 quoted above, and cf. II xxi 15, 17). Note in passing that for Hume, it is the “object” that possesses the power that is spoken of as the cause of its effect, not the power itself (see *E* 7.29 n. 17 and cf. note 34 above).

as a *façon de parler* rather than as an intended literal reference to “distinct agents”. For it follows that when he talks of *the imagination* as playing a crucial role in inductive inference or the genesis of belief in body, he can only mean that *some process of a type that pertains to the imagination* – what we might call an “imagination-like” process – is playing such a role. The paradigm of what counts as an imagination-like process here is evidently one that involves the communication of force and vivacity by associative (rather than rational) connexions between ideas, and possibly the consequent generation of fictions. So in ascribing such processes to the imagination, *Hume is using faculty language to classify those processes*, within arguments whose apparent point is precisely to identify the types of underlying process that are involved in various important mental operations.

The upshot is that what Hume is doing in the case of induction and the external world is to perform a deep analysis of what the relevant human power involves – identifying the conceptual steps that are implicit in its activity – *and then to use faculty language to express those underlying steps*. The faculty language that he uses for this purpose seems to be broadly traditional, with “reason”, “the senses” and “the imagination” all representing the kinds of processes (respectively apprehension of truth, sensory awareness, and association of ideas etc.) that would generally be considered paradigmatic of those faculties. Accordingly, where the underlying step is imagination-like – that is, involving processes such as the communication of vivacity through association – Hume describes that step as owing to “the imagination”, *even if the step concerned is located, within our cognitive economy, as part of the operation of our reasoning or our senses*. Thus his talk of the faculties does not, after all, offend against Locke’s strictures: when he claims that the imagination plays a crucial role in inductive inference, he is not thinking of our imaginative faculty as a distinct agent which intervenes to assist our reasoning faculty. Rather, his claim is to be understood as saying that our process of making inductive inferences *itself* crucially involves an *imagination-like* sub-process.

In performing this sort of analysis, Hume typically focuses on one particularly vital or problematic step. When investigating induction, for example, he is well aware that such inference can be a very complex process, with many factors taken into account (for example his “rules by which to judge of causes and effects” of *T* 1.3.15). But when setting out to identify the foundation of inductive inference, he ignores these complications and focuses his attention on the one crucial step of extrapolation from observed to unobserved which is, in effect, the supposition of a principle of uniformity between them. Having discovered that this one step is founded on associative mechanisms, he is then happy to declare that inductive inference in general is so founded.<sup>43</sup>

<sup>43</sup> Hume identifies “the foundation” of causal or inductive inference as – or says that it is “founded on” – the initial impression from which the inference starts (*T* 1.3.5.7, 1.3.6.6, 1.3.7.6, 1.3.8.9, 1.3.16.6), the relation of cause and effect (*T* 1.3.6.7; *E* 4.4, 4.14), experience (*T* 1.3.6.4; *E* 4.14, 12.29), the customary transition of the imagination (*T* 1.3.9.19, 1.3.13.9, 1.3.14.21, 1.4.4.1), imagination and the vivacity of ideas (1.4.7.3), or the Uniformity Principle (*T* 1.3.6.7; *E* 4.21), while denying that it is “founded on” “reasoning or any process of the understanding” (*E* 4.15) or “any process of argument or reasoning” (*E* 9.5). His second favourite locution is to say that causal reasoning is “determin’d” by custom (*T* 1.3.7.6, 1.3.14.1, 1.3.14.31; *A* 15, 16, 21, 25; *E* 5.4–5, 6.4, 8.5) or associational principles (*T* 1.3.6.4, 1.3.6.12), while denying (in most of the same passages) that it is “determin’d” by reason. But Hume never speaks of determination by *the imagination* itself; only by *principles of the imagination*. In describing his position in



When the mind ... passes from the idea or impression of one object to the idea or belief of another, it is not determin'd by reason, but by certain principles, which associate together the ideas of these objects, and unite them in the imagination. ... The inference therefore *depends solely* on the union of ideas. (T 1.3.6.12, my emphasis)

all reasonings are *nothing but* the effects of custom, and custom has no influence, but by enlivening the imagination, and giving us a strong conception of any object. (T 1.3.13.11, my emphasis)

Likewise with the external world, he focuses on the crucial step that takes us from interrupted sense impressions to our “assurance of the continu'd and distinct existence of body”, aiming to show that:

That opinion must be *entirely owing* to the IMAGINATION (T 1.4.2.14, my emphasis).

Given the complications that Hume knows to be involved in these cases, “*depends solely*”, “*nothing but*”, and “*entirely owing*” are presumably not intended to imply that the relevant cognitive operations involve *only* imagination-like principles: induction, as we have noted, can involve the application of explicit rules (T 1.3.15) and even the identification of underlying mathematical patterns (E 4.13, 7.29 n. 17), while the belief in body builds on sensory impressions. His intention seems, rather, to emphasise that these cognitive operations involve a crucial step to which imagination-like principles are *essential*: without the influence of such principles, that step would fail and the cognitive operations could not take place. Here *reason* and *the senses* are generally relegated to the background, with Hume’s primary interest being in steps that are attributable to *the imagination*. He takes it that even one such step is sufficient to prevent the entire process of which it is a part from being said to be founded on reason (or on the senses), just as one invalid step within a sequential inference typically renders the entire inference invalid. Hume’s main philosophical interest in the role of reason, therefore, is in showing that reason-like processes are not *wholly* responsible for the cognitive operations in question, and so he focuses on the crucial step which he thinks can show this. Thus when he denies that a process is “determin’d by reason”, this is apparently to be understood as denying that it is *entirely* attributable to reason,<sup>44</sup> whereas a process that is “founded on the imagination” need only involve *at least one* imagination-like step.<sup>45</sup>

### 5.3 The paradigmatic activities of the senses and reason

If the characteristic principles of *the imagination* are those involving the association of ideas, transfer of vivacity, and the invention of “fictions”, then the characteristic principles of *the senses* are – at least in the context of Hume’s discussion in *Treatise* 1.4.2 – those involving the mind’s immediate receipt

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what follows it seems best to rely on the notion of *founding*, which is sufficiently flexible to be used without begging questions about the nature of the relevant foundational relations. I shall henceforth take for granted – until §7.1 below – that nothing significant hangs on any distinction between foundation and determination, which seems a reasonable initial presumption given the many different ways in which Hume expresses what appear to be similar thoughts.

<sup>44</sup> However “*entirely* attributable to reason” in the relevant sense need not imply in turn that every *sub-process* of the *sub-processes* involved must be reason-like: see §§6.4-7.2 below.

<sup>45</sup> In the *Moral Enquiry* Hume’s language becomes more even-handed between the faculties. Compare for example the titles of T 3.1.1.1-2: “Moral distinctions not deriv’d from reason” and “Moral distinctions deriv’d from a moral sense” with M 1.9: “... *reason* and *sentiment* concur in almost all moral determinations and conclusions”.

of sensory *impressions*. This is made very clear by his arguments for eliminating the senses as the source of our belief in the continued and distinct existence of body (T 1.4.2.3-13):

That our senses offer not their impressions as the images of something *distinct*, or *independent*, and *external*, is evident; because they convey to us nothing but a single perception, and never give us the least intimation of any thing beyond. (T 1.4.2.4)

... properly speaking, 'tis not our body we perceive, when we regard our limbs and members, but certain impressions, which enter by the senses; so that the ascribing a real and corporeal existence to these impressions, or to their objects, is an act of the mind as difficult to explain, as that which we examine at present. (T 1.4.2.9)

... there are three different kinds of impressions convey'd by the senses. ... 'Tis ... evident, that colours, sounds, &c. are originally on the same footing with the pain that arises from steel, and pleasure that proceeds from a fire; and that the difference betwixt them is founded neither on perception nor reason, but on the imagination. For as they are confest to be, both of them, nothing but perceptions ... wherein possibly can their difference consist? Upon the whole, then, we may conclude, that as far as the senses are judges, all perceptions are the same in the manner of their existence. (T 1.4.2.13)

Again, Hume can hardly be denying that our belief in body is associated with the normal operation of our senses (and hence can be said to arise from “the senses”, understood in the correspondingly broad manner, just as our inductive beliefs can be said to arise from our faculty of reasoning). Rather, he is simply insisting that this normal operation itself involves a *sub-process* which is *imagination-like* rather than *sense-like*, on the ground that sense-like processes by themselves are inadequate to the task. And his paradigm of a sense-like process, for the purpose of this comparison, is the bare appearance of an impression to the mind.

What, then, of *reason*? What, for Hume’s purposes, counts as a *reason-like* process? The obvious answer, in view of our discussion in §4.2 above, is that the characteristic principles of “reason” are those involving successful cognition or apprehension of truth. But there are complications here, partly because of reason’s traditional role as the overarching cognitive faculty to which other faculties such as the senses “report”. And indeed we find that in different contexts, Hume’s discussions that are intended to assess reason’s role as the foundation of particular mental operations appeal to a variety of other processes.

At *Treatise* 1.3.6.4-6, Hume seems simply to take for granted that “If reason determin’d us” to make causal inferences, then it must do so on the basis of either a demonstrative or a probable argument for the Uniformity Principle.<sup>46</sup> But this narrow focus on *inference* appears to be exceptional. In *Enquiry* 4, by contrast, his discussion makes a point of eliminating not only demonstrative and probable (moral, factual) inference, but also sensation and intuition,<sup>47</sup> as potential grounds for the

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<sup>46</sup> This passage generates a natural temptation, for those who focus on the *Treatise* discussion of induction, to read “reason” in the relevant sense as a faculty exclusively concerned with *stepwise inference*: see for example Garrett (1997), pp. 82-5, 94; Noonan (1999), pp. 118-9; Owen (1999), p. 120.

<sup>47</sup> This was first noted by Millican (1995), pp. 109-10, but not emphasised until Millican (2002), pp. 155-6, which drew attention to the passage from Hume’s *Letter*. Although Millican’s analysis of *Enquiry* 4 has some force against the “reason as inference” interpretations, I would put more emphasis on the historical considerations in §3.1-4 above, and the implausibility of claiming that Hume would not consider *intuition* to be an operation of reason when he so frequently treats it alongside demonstration (e.g. T 1.3.3, 1.3.6.7, 1.3.7.3, 1.3.14.35, 2.3.2.2; E 4.1, 4.21, 8.22 n. 18).

Uniformity Principle. And the significance of this procedure is corroborated by a passage from Hume's *Letter from a Gentleman to his Friend in Edinburgh*, written in the same period:

It is common for Philosophers to distinguish the Kinds of Evidence into *intuitive, demonstrative, sensible, and moral* (L 22).

If *reason* is understood by Hume in the standard way of his contemporaries, as the overall cognitive faculty, then we should indeed expect it to embrace all four "Kinds of Evidence".

In *Treatise* 1.4.2, as we saw in §4.2, Hume rules out reason as the source of any belief in body on the ground that this belief involves elements that are "entirely unreasonable", "false", or impossible to establish by legitimate causal reasoning. In *Treatise* 3.1.1, as we saw in §4.1, he rules out reason as the foundation of morality on the basis that its operations are confined to "the discovery of truth or falshood ... [which] consists in an agreement or disagreement either to the *real* relations of ideas, or to *real* existence and matter of fact" (T 3.1.1.9). This is clearly compatible with seeing reason as embracing any "kind of evidence" that can lead us to discovery of "relations of ideas" (i.e. intuition and demonstration) or "real existence and matter of fact" (i.e. sensation and factual inference). It therefore fits comfortably with the broad picture of reason's resources implied by *Enquiry* 4, as does the parallel discussion in Appendix 1 of the *Moral Enquiry* (especially paragraphs 2, 6 and 7).

There are passages in the *Treatise* discussions of the motivating influence of the passions and morality that suggest a much narrower view of reason, which on one occasion is said to be "nothing but the discovery of [cause and effect]" (T 2.3.3.3) and more frequently is limited to the "comparison of ideas" (T 3.1.2.1 and 3.3.1.15, cf. 3.1.1.4, 3.1.1.24, 3.2.2.20). However there is little basis for seeing these passages as bearing much interpretative weight, since the relevant restriction is always tailored to the specific point that Hume is making in that context.<sup>48</sup> Moreover most of these passages occur in close proximity to others that very explicitly recognise a view of reason that extends to both relations of ideas and matters of fact (e.g. T 2.3.3.2, 3.1.1.18, 3.1.1.19 n. 69, 3.1.1.26).

## 6 The ambiguity thesis

So far, we have encountered no compelling ground for taking Hume's faculty term "reason" to be ambiguous, though further reflection on his argument concerning induction quickly reveals why the thesis has seemed attractive. In that argument, Hume concludes that causal reasoning (*Treatise*) or factual inference in general (*Enquiry*) arises from the imagination rather than reason, on the basis that a crucial step within its operation is performed by a non-rational associative process, a mental mechanism that is not governed by any perception of truth or evidence. From this, it naturally seems

<sup>48</sup> For example, he is opposing rationalistic theories of morality and justice at T 3.1.1.4, 3.1.1.24, and 3.2.2.20, and discussing the motivating influence of causal relations at T 2.3.3.3. The passages at T 3.1.2.1 and 3.3.1.15 seem to be appealing to a supposed (but questionable) analogy between the reason/sentiment distinction and the idea/impression distinction, whereby reason is said to involve the "comparison of ideas", so that eliminating reason as the foundation of morality leaves impressions – and therefore moral sentiments – as the only remaining possibility.

to follow that such inference must be *excluded* from any place amongst the legitimate operations of reason, a faculty which appears to be understood – by both Hume and his contemporaries – as defined by its paradigmatic function of truth-apprehension.<sup>49</sup> Accordingly, most interpreters (with the obvious exception of Garrett and others who take any inference, by definition, to be an operation of reason) have assumed that Hume's famous argument of *Treatise* 1.3.6 and *Enquiry* 4, by denying induction any *foundation in reason*, must ipso facto disqualify it from being an *operation of reason*.

Yet as we have just seen, this natural assumption is in serious tension with Hume's procedure in his later arguments concerning the external world (*Treatise* 1.4.2) and the foundation of moral distinctions (*Treatise* 3.1.1). In the first of these, Hume denies the role of reason in generating the "philosophical" belief in continued and distinct existence on the ground that causal reasoning based on constant conjunction can get no purchase when attempting to draw an inference from perceptions to objects. Because we are acquainted only with perceptions, and never directly with their supposed objects, we are unable to observe any constant conjunction between the two, and hence we cannot extrapolate any such conjunction to new instances (see T 1.4.2.47, quoted in §4.2 above). This seems clearly to presuppose that *if we could* – per impossibile – establish the desired constant conjunction from observation, then inductive extrapolation of that conjunction to unobserved cases *would count as an operation of reason*. Likewise, when arguing that reason cannot provide a foundation for morality, Hume explicitly (and repeatedly) includes within its domain the discovery of cause and effect relationships, existential propositions, and even "matter of fact" in general:<sup>50</sup>

... reason, in a strict and philosophical sense, can have an influence on our conduct ... by informing us of the existence of something which is a proper object of [a passion]; or when it discovers the connexion of causes and effects, so as to afford us means of exerting any passion. (T 3.1.1.12)

... the operations of human understanding divide themselves into two kinds, the comparing of ideas, and the inferring of matter of fact ... (T 3.1.1.18)

This again seems clearly to imply that he counts inductive inference as a *legitimate* operation of reason, contradicting the apparent upshot of his argument concerning induction.

### 6.1 Ambiguities in "reason" and "the imagination"

It is considerations such as these that have mainly fuelled the popularity of the claim that Hume's use of the term "reason" is ambiguous.<sup>51</sup> On this style of interpretation, he is operating with (at least) two quite distinct levels of normative rigour, one of which accommodates inductive reasoning within its

<sup>49</sup> Recall Hume's standard assumption, highlighted in the final paragraph of §5.2 above, that a single non-rational step is sufficient to exclude an entire mental process from being founded on reason.

<sup>50</sup> See also the quotations in §4.1 above, and some of the other passages cited in the final paragraph of §5.3.

<sup>51</sup> See §1 above. An influential early statement of the claim is Winters (1979), which starts by focusing on "Conflict between Book I and Books II and III" (pp. 134-6) based on passages such as those just discussed. Other scholars who have alleged some such ambiguity include Beauchamp *et al.* (1975, pp. 76-8; 1981, pp. 41-5, 63-7), Norton (1982, pp. 96-8 n. 4), Baier (1991, pp. 60-1, 278), Millican (1995, pp. 130-2), Owen (1999, pp. 130-4), and Loeb (2002, pp. 53-9). Garrett (1997, pp. 94-5) has been distinctive in consistently opposing the ambiguity thesis.

scope, while the other does not. Thus on the more demanding “rationalistic” interpretation of “reason” – most often taken to be *deductivist* in nature – inductive reasoning fails to qualify and hence must be attributed to “the imagination”, as proved in Hume’s famous argument of *Treatise* 1.3.6. But when later moving on to consider such topics as the external world or morality, he apparently relaxes the constraints, is perfectly content to allow inductive reasoning to qualify as a respectable operation of “reason”, and accordingly dismisses as due to “the imagination” only matters that lie beyond the reach of *both* deductive *and* inductive reasoning. Typically it will be this second, more relaxed notion of reason that is interpreted as being genuinely Humean, with his argument concerning induction being understood as implicitly a *rejection* of the more rigorous “rationalistic” notion, by showing its total impotence to prove anything about unobserved matters of fact.

If Hume is operating with two quite distinct notions of normative “reason”, each with its own standard of rigour, then apparently we must also recognise a third, non-normative notion within his work, when he simply intends to refer to the natural faculty of human cognition or “understanding”, with all its faults and however it might operate.<sup>52</sup> Something like this seems to be the intended sense in the title of the *Enquiry Concerning Human Understanding* and of Book 1 of the *Treatise*, “Of the understanding”. Such an intention is even clearer within the section of each work that discusses “the reason of animals”, where Hume refers to “the reasoning faculty of brutes, as well as that of human creatures” (*T* 1.3.16.12). In this sense, apparently, assigning an operation to “reason” need have no normative implications, given that our natural faculty – and *a fortiori* that of other animals – can be “deceitful” (*T* 1.4.1.1), “fallacious” (*E* 5.22), “weak” (*T* 1.4.1.6; *E* 7.24, 7.28, 12.21), “infirm” (*E* 12.24), and even “blundering” (*T* 3.3.1.24).

The ambiguity claim about “reason” is corroborated by an apparently related ambiguity which Hume himself identifies in his talk of *the imagination*, and whose basis becomes clear if we delve deeper into what he takes to be paradigmatic of that faculty’s activities. In §4.3, I suggested that Hume views the characteristic processes of the imagination as including *transfer of vivacity through association of ideas*, and *imaginative construction of fictions*. Association of ideas turns out to play a crucial role in many of our most important mental operations both cognitive and conative, for example

<sup>52</sup> See Millican 1995, p. 130 and 1998, pp. 156-7 n. 3. Note that in addition to the major uses of “reason” discussed here, Hume also points out (or uses himself) various “improper” senses, which add to the potential for confusion. For example the “calm passions” play a significant role in his theories of the passions and morals (*T* 2.3.3.3-10), but are commonly misidentified as “reason” (*T* 2.3.3.4, 2.3.9.13). Again, we call “reason” our attempts to “give the preference to whatever is in itself preferable, without considering its situation and circumstances” (*T* 3.2.7.5, cf. *M* 6.15), correcting our natural tendency to be more affected by immediate than remote benefits. These two seem to be brought together when Hume talks of “that *reason*, which is able to oppose our passion; and which we have found to be nothing but a general calm determination of the passions, founded on some distant view or reflexion” (*T* 3.3.1.18). In a long footnote at *E* 5.5 n. 8, Hume discusses the commonly made distinction “between *reason* and *experience*”, where the former is supposed to be “the mere result of our intellectual faculties, which, by considering *a priori* the nature of things ... establish particular principles of science and philosophy”. This distinction he then attacks as “erroneous, at least, superficial”. On one occasion in the *Treatise* he seems to use “reason” in a similarly superficial sense, in which *reason* is distinguished from *authority*: “I have all along endeavour’d to establish my system on pure reason, and have scarce ever cited the judgment even of philosophers or historians on any article” (*T* 3.2.8.8).

inductive inference, the explanation of pride and humility, and the operation of sympathy.<sup>53</sup> Imaginative construction of fictions combines with association to create our belief in body, and likewise generates various other beliefs, including substance (*T* 1.1.6.2) and the self (*T* 1.4.6.6-7, 21).<sup>54</sup> In §4.1 we saw that imaginative construction also plays a central role in Hume’s theory of morals, whereby the “gilding or staining” of taste “raises ... a new creation” (*M App* 1.21) so as to provide our moral judgements with a relatively objective measure. “The imagination”, Hume says in the *Treatise*, “adheres to the *general* views of things, and distinguishes betwixt the feelings they produce, and those which arise from our particular and momentary situation” (*T* 3.3.1.23). This kind of systematic imaginative construction is also invoked in his treatment of causal reasoning, when he comes to explain why causation alone of the three associative relations is able to generate belief:

Of [our] ... ideas of the memory we form a kind of system, ... and every particular of that system, join’d to the present impressions, we ... call a *reality*. But the mind ... finding, that with this system of perceptions there is another connected by ... the relation of cause or effect, it proceeds to the consideration of their ideas; and as it feels that ’tis ... necessarily determin’d to view these particular ideas [without] the least change, it forms them into a new system, which it likewise dignifies with the title of *realities*. The first of these systems is the object of the memory and senses; the second of the judgment. ’Tis this latter principle, which peoples the world, and brings us acquainted with such existences, as ... lie beyond the reach of the senses and memory. By means of it I paint the universe in my imagination, and fix my attention on any part of it I please. I form an idea of *Rome*, which I neither see nor remember ... All this, and every thing else which I believe, are nothing but ideas, tho’ by their force and settled order, arising from custom and the relation of cause and effect, they distinguish themselves from the other ideas, which are merely the offspring of the imagination. (*T* 1.3.9.3-4)

Note, however, a tension in this last passage. On the one hand, it is my imagination that enables me to “paint the universe ... and fix my attention on any part of it”, thus creating my view of *reality*. But on the other hand, the settled and ordered ideas that lie within this system are to be distinguished from “the other ideas, which are merely the offspring of the imagination”. The intended distinction is between beliefs “of the judgment” that are solidly founded on causal reasoning from experience (with their corresponding “force and settled order”) and those having no such foundation. But since causal reasoning – on Hume’s own account – is itself “merely the offspring of the imagination”, it seems that he must be using “the imagination” ambiguously here. At the end of the section he admits as much, in a footnote specially inserted (by means of a printer’s “cancel” sheet) while the *Treatise* was in press:<sup>55</sup>

In general we may observe, that as our assent to all probable reasonings is founded on the vivacity of ideas, it resembles many of those whimsies and prejudices, which are rejected under the opprobrious

<sup>53</sup> Hume famously comments in the *Abstract* that “the principle of the association of ideas ... enters into most of his philosophy” (*A* 35), but this is far more true of the *Treatise* than of the later works. The only significant associative explanation remaining in the *Enquiry* is the special case of causation and inductive belief, which is not anyway straightforward *association* of ideas, since custom generates new beliefs rather than merely carrying the mind between pre-existing ideas (cf. *E* 5.20). The *Moral Enquiry* mentions the association of ideas at 4.7, 5.14, and 5.38, but not in any crucial role, and the associative account of the operation of sympathy at *T* 2.1.11.5-7 seems to be implicitly disavowed at *M* 5.17 n. 19. Associationist explanations remain most prominent in the *Dissertation on the Passions*, for example in the explanation of pride and humility (2.6 ff.).

<sup>54</sup> For a very useful discussion of Humean fictions, see Traiger (1987).

<sup>55</sup> For details of this and the related note at *T* 2.2.7.6, which Hume apparently intended to have deleted as the same time, see the Nortons’ critical edition of the *Treatise*, vol. 2 pp. 592-4. The footnote seems to belong at the end of *T* 1.3.9.4, so presumably it was inserted at the end of the section to avoid having to reset earlier pages on the press.

character of being the offspring of the imagination. By this expression it appears that the word, imagination, is commonly us'd in two different senses; and tho' nothing be more contrary to true philosophy, than this inaccuracy, yet in the following reasonings I have often been oblig'd to fall into it. When I oppose the imagination to the memory, I mean the faculty, by which we form our fainter ideas. When I oppose it to reason, I mean the same faculty, excluding only our demonstrative and probable reasonings. (*T* 1.3.9.19 n. 22)

This makes explicit a third characteristic activity of “the imagination”, namely, its *fabrication of whimsies and prejudices* unconstrained by the discipline of causal reasoning. These are quite properly to be rejected as respectable cognitive operations, and are indeed standardly deprecated as being mere “offspring of the imagination”. But such usage of the faculty term, though Hume fully agrees with the dismissive attitude it evinces, is problematic for him. Having identified so many cognitively vital associative and constructive processes as operations of “the imagination”, he is understandably reluctant to see these categorised together with mere superstitions and fantasies. He therefore coins a more restricted usage of the term “imagination”, confined to the mind’s disreputable operations, and which therefore *excludes* “our demonstrative and probable reasonings”.<sup>56</sup> Thus our respectable reasonings – for all that they depend on the association and enlivening of ideas – can be removed from the domain of “the imagination” and instead classified under a differently named faculty, with the honorific title of “reason”.<sup>57</sup>

If one is tempted by the idea that Hume uses two normative senses of “reason”, which differ according to whether induction is included or excluded within its bounds, then it seems very attractive to link this with his openly acknowledged ambiguity in “the imagination” (cf. Millican 1995, p. 131). His familiar method of framing a discussion, by asking whether some key mental process is due to *reason* or *the imagination*, suggests that these are being used as complementary terms, with “the imagination” as a catch-all category for whatever fails to qualify as part of “reason”. And if this suggestion is correct, then Hume’s acknowledged ambiguity in “the imagination”, depending as it does on whether our standard methods of reasoning are considered too respectable to deserve “the opprobrious character of being the offspring of the imagination”, will presumably imply a complementary ambiguity in “reason”.

## 6.2 An alternative to the ambiguity thesis

The case for an ambiguity in Humean “reason” outlined in the previous section is strong, but not decisive. First, as Garrett has rightly insisted (1998, p. 194 n. 7), Hume’s acknowledged ambiguity in “the imagination” does not straightforwardly imply any corresponding ambiguity in “reason”. Despite

<sup>56</sup> In the *Enquiry* this ambiguity is less evident, partly because Hume downplays the faculty language which is so prominent in the *Treatise*. When he does speak of the imagination, it is normally in the more restricted sense, and he repeatedly stresses a contrast between custom and the “loose reveries” of the imagination (*E* 5.11, 5.13, 5.20). In the *Treatise*, custom is described as “a principle of association” (*T* 1.3.7.6), whereas in the *Enquiry*, custom is given more distinctive prominence and is said only to be *analogous* or “of a similar nature” to the association of ideas (*E* 5.20).

<sup>57</sup> Hume sketches a justification for his division between the respectable (“permanent, irresistible, and universal”) and disreputable (“changeable, weak, and irregular”) operations of the imagination in a famous passage at *T* 1.4.4.1.

Hume’s tendency to oppose the two to each other, it is quite possible that he is treating “the imagination” as more than a mere negative catch-all. And this suggestion can now be given more substance in the light of our earlier discussion: it seems that his categorisation of a mental process as founded on “the imagination” can be understood as having a clearly positive (if admittedly ambiguous) meaning, namely, that the process in question depends – at least in part – on such underlying mechanisms as the association of ideas, imaginative construction, or fanciful whimsies and prejudices. There is no doubt that Hume sees inductive inference as having such a dependence (on customary association), and this could justify including such inference within the domain of “the imagination” *without thereby implying that it must cease to lie within the domain of “reason”* (that is, the domain of cognitive processes that enable “discovery of truth or falsehood”). There are, indeed, well-known passages (cf. §5 above) in which Hume either attributes inductive inference to *both* “the understanding” and “the imagination” (e.g. “the understanding or imagination can draw inferences from past experience”, *T* 1.3.8.13), or even explicitly includes one faculty within the other (e.g. “the understanding, that is, ... the general and more establish’d properties of the imagination”, *T* 1.4.7.7). If the suggestion made here is correct, then it could indeed be possible in principle for the two faculties to overlap (despite Hume’s tendency often to place them in opposition to each other), and hence we do not need to interpret these passages as paradoxical.

There are, however, some further complications here, because the case just made – and also the quotations from Hume – somewhat run together two distinguishable issues: (a) *whether induction is founded on reason (or the imagination)*, and (b) *whether induction is to be counted as itself an operation of reason (or the imagination)*. We shall return to these issues in §7 below; for now, the key point is simply that there is no straightforward implication from Hume’s acknowledged ambiguity in his use of “the imagination” to a corresponding ambiguity of “reason”. So what might have been thought to be a decisive argument for the latter ambiguity is undermined.

## 6.3 Ambiguity, and flexibility of language

A second and more general reason for doubting the ambiguity thesis, at least in the relatively crude form in which it has dominated so much of the interpretative literature on Hume on induction, concerns the nature of language itself. In §§3.2-4.2 our discussion indicated that Hume’s understanding of the word “reason” essentially follows that of his contemporaries, meaning our faculty for *discovery of truth or falsehood*, or *apprehension of what is the case* (“truth-apprehension” for short). But this leaves open a wide range of possible uses of the word, which seem to match – at least roughly – with the following passages from Hume:

- (a) The human (or animal) faculty of truth-apprehension, however well and by whatever processes it might operate:

Our reason must be consider’d as a kind of cause, of which truth is the natural effect; but such-a-one as by the irruption of other causes, and by the inconstancy of our mental powers, may frequently be prevented. (*T* 1.4.1.1); Men are superior to beasts principally by the superiority of

their reason; and they are the degrees of the same faculty, which set such an infinite difference betwixt one man and another. (T 3.3.4.5)

- (b) Those human (or animal) processes that we standardly take to be involved in truth-apprehension, even if they turn out not to be truth-conducive:

... the understanding, when it acts alone, and according to its most general principles, entirely subverts itself, and leaves not the lowest degree of evidence in any proposition ... We have ... no choice left but betwixt a false reason and none at all. (T 1.4.7.7)

- (c) The human (or animal) faculty of truth-apprehension, operating successfully to apprehend truth:

This sentiment, then, as it is entirely unreasonable, must proceed from some other faculty than the understanding. ... So that upon the whole our reason neither does, nor is it possible it ever shou'd, ... give us an assurance of the continu'd and distinct existence of body. (T 1.4.2.14); ... 'tis a false opinion ... and consequently ... can never arise from reason ... (T 1.4.2.43)

- (d) What is the case, as successfully apprehended by our faculty of truth-apprehension:

There is nothing I wou'd more willingly lay hold of, than an opportunity of confessing my errors; and shou'd esteem such a return to truth and reason to be more honourable than the most unerring judgment. (T App 1)

- (e) The faculty of truth-apprehension acting entirely alone, independently of other faculties (such as the senses or memory):

... vice and virtue are not discoverable merely by reason, or the comparison of ideas ... (T 3.1.2.1); ... the sense of justice is not founded on reason, or on the discovery of certain connexions and relations of ideas, which are eternal, immutable, and universally obligatory. (T 3.2.2.20)

What we have here is not a straightforward *ambiguity* in “reason”, because the various uses all spring from its established meaning in a way that is very common and can easily be illustrated with other words. For example a “cure” for a disease standardly means an effective remedy, but can also be used to refer to a treatment which has been *wrongly* thought to be a remedy, as in: “The traditional cure turned out to be hindering recovery”. A fortiori, the word can be applied to a treatment that is *claimed* (but not known) to cure the disease. And in a somewhat similar manner, “reason” can be applied to processes that aim to apprehend truth, independently of whether they actually succeed, as in (b) above. On other occasions, we would restrict each term to treatments or processes that operate *correctly*, as in (c) above: “His so-called remedy wasn’t actually a cure at all”; “Reason cannot lead you to that conclusion”.<sup>58</sup> Somewhat related to this is the use of a term to refer to the *successful outcome* or *target* of a process, as in (d) above, which involves a common form of metonymy recognised by

<sup>58</sup> Just as “reason” is often used to mean *good* reason, or reason used *appropriately*, so when Hume says that there is no argument or inference of some kind, he tends to mean no *good* argument or inference, e.g. “even after I have had experience of many repeated effects of this kind, there is no argument, which determines me to suppose, that the effect will be conformable to past experience” (A 15); “we have no argument to convince us, that objects, which have, in our experience, been frequently conjoined, will likewise, in other instances, be conjoined in the same manner” (E 12.22, cf. E 4.19, 21, 8.23); “if this proposition ... affords no inference that affects human life” (D 227, cf. D 205). Such usage is indeed very common with words for intellectual operations, e.g. “This is a proof that *P*” or “This is a refutation of *P*” would both be taken to connote *successful* proof or refutation, although it is also possible to say “His proof that *P* [or refutation of *P*] turned out to be flawed”.

Locke: “THE *Word Reason* in the *English Language* ... sometimes ... is taken for true, and clear Principles ...” (*Essay* IV xvii 1, see note 19 above).

Case (e) is more complex and problematic, presupposing some form of distinction between a *core* or *paradigmatic* notion of “reason” – reason acting by itself independently of the sub-faculties which “report” to it – and the more usual extended notion. A relatively straightforward analogy could arise in the case of a company that has errors in its accounts, some of which are due to false information received from other parts of the business, and some of which are due to the accountants themselves. Here “an accounting error” would most naturally be taken as referring to the latter, meaning an error due to the accountants alone, though it could also be taken in the broader sense as meaning an error (of whatever kind) in the accounts. Another, more interesting, parallel arises in the case of words whose original core meaning has been extended to encompass an increasing range of processes, as for example the word “inquiry” in the context of an official *inquiry* into the preferences of citizens in some area.<sup>59</sup> Such an inquiry could proceed by various methods (e.g. consulting of records and voting statistics), but the paradigmatic method would be direct *inquiry*: that is, asking the citizens, in person, for their view. Here the core notion remains firmly tied to the original literal meaning, but a contrasting type of case can arise where a term is associated with some kind of value, for example the words “professional” and “amateur”, whose literal meaning concerns whether or not someone earns a living from the activity concerned, but which acquire additional connotations from that literal meaning. Thus “He’s a real professional!” can be used to say that someone has the paradigmatic qualities of a professional in the relevant field, while “That’s a really amateur job!” can be used to criticise a piece of work as failing to reach “professional” standards. Hence it is quite possible to have, without paradox, a professional job done by an amateur, or vice-versa. In this sort of case, the paradigmatic notion can split apart from the original literal meaning.

“Reason”, as traditionally understood, combines all of the features necessary to exhibit this wide range of variations in usage. Like a cure, it aims to achieve something – the discovery of truth – but can fail. Like an accounting system, it draws information from a wide range of distinct sources – *memory*, *the senses* etc. – and then applies further processing of its own. Like an inquiry, it has traditionally been thought to have a paradigm method of operation – the direct *perceptual* apprehension of truth and evidential connexions – but can also encompass more indirect methods of truth-discovery. And finally, like a professional, it is understood to involve appropriate standards of operation – by purely “rational” methods – giving a sense in which the so-called operations of “reason”, even if they happen to succeed in yielding truth, can fail to live up to that name when they fall short of the required standards.

<sup>59</sup> Examples of this phenomenon seem to be most common where our faculties have been extended technologically, for example “discussion” (paradigmatically in person, but by extension at long distance, mediated, and over years), “paper” (a printed article, or an electronic resource), “see” (direct vision, or apprehension by whatever means), “lift” (by hand, or using machinery) etc.

It is therefore not at all surprising to find that Hume's uses of "reason" exhibit great variety, with a wide range of purposes and nuances. Such variety does not imply that the word is literally *ambiguous*, any more than it does in the cases of "cure", "accounting", "inquiry", or "professional". This verbal flexibility is quite different from the sort of literal ambiguity that arises where a single word has been coined more than once – coincidentally – for different purposes.

## 6.4 Inconsistent standards?

The points made above might be sufficient to undermine the common view that Hume's use of "reason" is straightforwardly *ambiguous*. But a strong suspicion is likely to remain, that he is guilty of applying *inconsistent standards* in arguments which supposedly have a similar purpose, namely, to deny that reason is responsible for some key mental operation. For the case sketched in §6 above has not yet been addressed, to the effect that Hume's famous argument of *Treatise* 1.3.6 *ought* to disqualify induction from counting amongst the legitimate operations of reason, at least as that faculty is understood within his later arguments of *Treatise* 1.4.2 and 3.1.1. With the distractions of the ambiguity issue put to one side, let us now examine this more focused objection in more detail.

We have seen that Hume's famous argument – together with its corollary regarding the role of custom – aims to establish that every inductive inference involves a sub-process which is *not reason-like*, that is, *non-cognitive*, and which operates through an automatic and irresistible mechanism of associative extrapolation rather than by any rational insight or apprehension of reality. Hume's own words, in his definitive *Enquiry* presentation, express this conclusion and corollary fairly clearly:<sup>60</sup>

we ... conclude ... that, in all reasonings from experience, there is a step taken by the mind, which is not supported by any argument or process of the understanding (*E* 5.2)

All belief of matter of fact or real existence is derived merely from some object, present to the memory or senses, and a customary conjunction between that and some other object. ... This belief is the necessary result of placing the mind in such circumstances. It is an operation of the soul, when we are so situated, as unavoidable as to feel the passion of love, when we receive benefits; or hatred, when we meet with injuries. All these operations are a species of natural instincts, which no reasoning or process of the thought and understanding is able, either to produce, or to prevent. (*E* 5.8)

Hume is also clearly aware that this conclusion has potentially sceptical implications:

The sceptic ... seems to have ample matter of triumph; while he justly insists, that ... nothing leads us to [inductive] inference but custom or a certain instinct of our nature; which it is indeed difficult to resist, but which, like other instincts, may be fallacious and deceitful. (*E* 12.22)

Indeed he might well seem to be already committed to a radically sceptical position, because as we have already remarked in §5.2 above, the logic of his procedure implies that an operation which depends on even one imagination-like sub-process is to be categorised as founded on the *imagination* rather than *reason*, even if all the other sub-processes involved are rationally above reproach. Such an

<sup>60</sup> Millican (1995, pp. 113-14 and 2002, pp. 138-9) argues that the following passage from *E* 5.2 should indeed be taken as the definitive statement of Hume's conclusion in the *Enquiry*, on the ground that it reconciles a tension in his other statements (at *E* 4.15 and 4.23).

asymmetry when speaking of foundational processes is quite natural, since we are typically interested in the *weakest* link in any chain of support rather than the *strongest*. Thus a climber can properly be described as "supported only by a rope" whether that rope itself is secured to a mountain, a building, a heavy vehicle, or any other relatively reliable anchor.<sup>61</sup> In the same way, an argument or legal case which crucially depends on some imaginative fabrication, even if it *also* depends on numerous points that are logically unassailable, can appropriately be said to be "founded on fantasy".

But if we follow through this line of thought, then since causal or inductive inference depends on a process of imaginative extrapolation which itself has no rational grounding, we seem forced to conclude that any proposition which can be established only by such inference must apparently in turn be disqualified from counting as founded on reason. Yet as we saw in §5.3 and §6, this seems to contradict both the text and the spirit of Hume's later discussions in the *Treatise* and the *Moral Enquiry*.<sup>62</sup> Must we embrace the ambiguity thesis after all, if we are to acquit Hume of the charge of blatant – and fundamental – double-standards?

## 7 Resolving the conundrum

The key to resolving this problem is, I believe, to be found in the discussion of §6.2 above, where two subtly different issues were distinguished:

- (a) whether induction is founded on reason;
- (b) whether induction is to be counted as itself an operation of reason.

Hume's argument concerning induction gives a clearly negative answer to (a), while his attitude to induction elsewhere (cf. §6 above) strongly suggests a positive answer to (b). No doubt there is a superficial tension between these two answers, but there is no outright contradiction. I suggest, therefore, that *Hume views induction as being an operation of reason, an operation which is not itself founded on reason, but arises instead from custom, a process of the imagination*.

### 7.1 An operation of reason, founded on the imagination?

One (perhaps surprising) virtue of this resolution is that enables us to reinstate the natural thought that Hume generally regards *reason* and *the imagination* as complementary categories, in the sense that an operation deemed to belong to the imagination is thereby excluded – *at least within that context and at*

<sup>61</sup> We would not usually describe the climber as "supported only by" a rock (or vehicle etc.) to which the rope is attached unless the rock was considered potentially *less* secure than the rope (e.g. suppose the attachment is to spur of rock that is in imminent danger of cracking – we might well then say that the climber is "supported only by the spur").

<sup>62</sup> Recall such quotations as "... with regard to *reason* ..." The only conclusion we can draw from the existence of one thing to that of another, is by means of the relation of cause and effect ..." (*T* 1.4.2.47); "... our reason ... or, more properly speaking, ... those conclusions we form from cause and effect ..." (*T* 1.4.4.15); "... these emotions extend themselves to the causes and effects of that object, as they are pointed out to us by reason and experience ..." (*T* 2.3.3.3); "... the operations of human understanding ... [include] the inferring of matter of fact ..." (*T* 3.1.1.18).

that level of explanation – from counting also as an operation of reason (cf. §6.2). Superficially, at least, this does seem appropriate, because an “imagination-like” process is understood precisely as one that involves “blind” associative mechanisms rather than the apprehension of reality. And although, as we have seen, Hume occasionally talks as though reason and the imagination are mutually compatible – for example at T 1.4.7.7 where he refers to “the understanding, that is, ... the general and more establish’d properties of the imagination” – such talk (if taken literally) seems inconsistent with his key arguments that hinge on faculty assignments, where he invariably treats them as mutually exclusive.<sup>63</sup> Hence we are better interpreting such talk as an inexact expression of something slightly more complex: in this case, something like “operations that are founded on the general and more establish’d properties of the imagination”. This seems relatively unproblematic, especially given the rarity of such statements, and preferable to convicting Hume of inconsistency or ambiguity.

There is, however, a price to be paid for all this, because it evades the line of thought sketched in §6.4 above only by implicitly denying the *transitivity* of the founding relation in terms of which it was posed. To see this, note first that Hume explicitly talks of propositions or beliefs as being *founded on* arguments, inference, or reasoning (e.g. T 1.3.6.4, 1.3.14.35; A 10, 33; E 4.15; D 204), implying that beliefs that are established by standard inductive or causal arguments should count as being founded on those arguments. Inductive inference itself is in turn said to be founded on the principles of the imagination – customary transfer of vivacity – rather than reason (e.g. T 1.3.9.19, 1.3.14.21, 1.4.4.1, 1.4.7.3). But now if the *founded on* relation is univocal, one would also expect it be transitive: *if x is founded on y, and y is founded on z in the same way, then one would expect x to be founded (indirectly) on z*. So if we have beliefs in matters of fact that are founded on induction, and induction is founded on the imagination,<sup>64</sup> then it seems to follow that those beliefs are founded – albeit indirectly – on the imagination, and hence not on *reason* (assuming the two are mutually exclusive). But surely, if induction is *itself* an operation of reason, shouldn’t this mean that anything appropriately inferred by induction is indeed *ipso facto* founded on reason?

One possible – and perhaps not unreasonable – response to this problem would be to give up any attempt to find a coherent logic for Hume’s founding relation, on the ground that it is simply too profligate and undisciplined to be formally tamed (cf. note 43 in §5.2 above).<sup>65</sup> We could instead

<sup>63</sup> As we saw in §5.2 above, Hume tends to treat *any* dependence on processes of the imagination as implying *entire* dependence on the imagination – thereby pointedly excluding any foundation in reason. So if inductive inference were able to count as *both* an operation of reason *and* an operation of the imagination, then a conclusion which was founded entirely on this operation of reason would nevertheless have to count as dependent on the imagination and therefore *not* founded on reason, which would in turn undermine the possibility that anything could *ever* be founded on inductive reason. The upshot of this argument is that if “founded on reason” and “founded on the imagination” are mutually exclusive, then “operation of reason” and “operation of the imagination” must also be mutually exclusive.

<sup>64</sup> Here – as elsewhere in the paper – I follow Hume’s usual practice of ignoring the type/token distinction between induction in general and specific inductive inferences. Fortunately nothing crucial seems to hang on this.

<sup>65</sup> Millican (2002) attempts to develop such a logic, but it seems that he cannot *both* maintain that “Hume takes ‘founded on’ to be in general a transitive relation” (p. 147) *and also* hold that the “founded on” relation is sufficiently univocal and well-defined to be applicable to all different kinds of foundation and all relevant explanatory levels.

attempt to identify the many different kinds of “foundation” that might be relevant to his discussion (e.g. material causes, underlying processes, inferences, relations, algorithmic steps, rational grounds, premises, impressions) and then – armed with this taxonomy – tease apart the threads of his thought so as to identify his fundamental principles in less ambiguous language. That would be an interesting and potentially illuminating exercise, though I suspect that it would misrepresent Hume’s thought precisely in *failing to conflate* these different kinds of foundation. Millican (2007, p. 182; cf. 2002, pp. 146-51) has shown how efficiently Hume’s argument in the *Enquiry* can be rendered into eleven principal stages, all of which are expressed in terms of a single “founded on” relation, and it seems hard to deny that Hume was thinking in some such terms when arguing like this:

When it is asked, *What is the nature of all our reasonings concerning matter of fact?* the proper answer seems to be, that they are founded on the relation of cause and effect. When again it is asked, *What is the foundation of all our reasonings and conclusions concerning that relation?* it may be replied in one word, EXPERIENCE. But if we still carry on our sifting humour, and ask, *What is the foundation of all conclusions from experience?* ... (E 4.14)

Clearly *cause and effect*, *experience*, and *custom* (the obvious answer to Hume’s final question) all fall into distinct logical categories, yet he seems to assume complacently that the foundational relation can slide unproblematically from one to the other. Perhaps this is illegitimate, but his reasoning looks plausible and at least sets an interesting challenge: to attempt to make sense of it in terms that are maximally faithful to his own categories and connotations.

With this in mind, the regimentation of Hume’s reasoning is greatly simplified if – when specifying the relata of the “founded on” relation – we parse his word “experience” as *reasoning from experience*, and “the relation of cause and effect” as *causal reasoning*.<sup>66</sup> If we do this, then the only part of Hume’s discussion that resists such translation into broadly informational terms is what he says about *custom*. And it is in respect of custom, of course, that we encountered the difficulty over transitivity that beset our attempted solution of the double-standards conundrum. A tempting way out, therefore, is to abandon the idea that Hume’s “founded on” relation is univocal, and to interpret *foundation on custom* in particular as a *different* foundational relation, one that is to be understood in purely causal as opposed to informational terms.

## 7.2 An operation of reason, caused by imagination-like processes

Here are the passages from the *Treatise* in which Hume talks about custom (or the principles of the imagination) as providing a *foundation* for inductive inference:

<sup>66</sup> Here I follow the lead of Millican (2007, p. 182), who makes the adaptation without discussion. However it could be challenged as misrepresenting Hume’s thought: for example, founding an inference on *reasoning from experience* is not self-evidently the same as founding it on *information derived from experience*. Nevertheless, the simplification is helpful for current purposes, and can perhaps plausibly be seen as smoothing over connotations that Hume himself makes. Altogether Millican lists eight relata of the “founded on” relation: *causal reasoning*, *demonstrative inference*, *reasoning from experience*, *factual inference to the unobserved*, *intuition*, *reason*, *sensation*, and *the Uniformity Principle*. But within his representation of the argument he replaces “intuition” and “sensation” by “intuitive evidence” and “sensory evidence” respectively.

“... education ... [is] built almost on the same foundation of custom and repetition as our experience or reasonings from causes and effects” (T 1.3.9.19); “... tho’ custom be the foundation of all our judgments ...” (T 1.3.13.9); “The foundation of our inference is the transition arising from the accustom’d union.” (T 1.3.14.21); “... the principles [in the imagination] which are permanent, irresistible, and universal; such as the customary transition from causes to effects, and from effects to causes: ... are the foundation of all our thoughts and actions ...” (T 1.4.4.1); “The memory, senses, and understanding are ... all of them founded on the imagination, or the vivacity of our ideas” (T 1.4.7.3).

But what is really striking is that we do not find *any such passages at all* in the *Abstract* or *Enquiry*: in neither of these works is custom ever said to provide a *foundation* for inductive inference, and in both works the influence of custom is always described in terms that are either explicitly *causal*, or naturally interpretable as such. Here, first, are the relevant passages from the *Abstract*:

“We are determined by CUSTOM alone to suppose the future conformable to the past.” (A 15); “... custom ... alone determines the mind, in all instances, to suppose the future conformable to the past” (A 16); “We can give no reason for extending to the future our experience in the past; but are entirely determined by custom ... Belief, therefore, in all matters of fact arises only from custom ...” (A 21); “... even after we have experience of these effects, ’tis custom alone, not reason, which determines us to make it the standard of our future judgments” (A 25).

And from the *Enquiry*:

“There is some other principle, which determines him to form such a conclusion. This principle is CUSTOM or HABIT.” (E 5.4-5); “... we are determined by custom alone to expect the one from the appearance of the other ... All inferences from experience, therefore, are effects of custom, not of reasoning.” (E 5.5); “... the mind is carried by custom ...” (E 5.8); “... [the object] immediately, by the force of custom, carries the imagination to conceive that object, which is usually conjoined to it ...” (E 5.11); “This transition of thought from the cause to the effect proceeds not from reason. It derives its origin altogether from custom and experience.” (E 5.20); “... our thoughts and conceptions have still, we find, gone on in the same train with the other works of nature. Custom is that principle, by which this correspondence has been effected ...” (E 5.21); “Being determined by custom to transfer the past to the future ...” (E 6.4); “The appearance of a cause always conveys the mind, by a customary transition, to the idea of the effect.” (E 7.29); “... the mind is determined by custom to infer the one from the appearance of the other” (E 8.5); “... the mind is carried, by a *customary transition*, from the appearance of one to the belief of the other” (E 8.21); “It is custom alone, which engages animals, from every object, that strikes their senses, to infer its usual attendant ...” (E 9.5); “... all reasoning concerning facts or causes is derived merely from custom ...” (E 9.5 n. 20); “... nothing leads us to this inference but custom or a certain instinct of our nature ...” (E 12.22).

Taking the *Abstract* and the *Enquiry* together, that makes 19 *causal* statements implicating custom, and not a single *foundational* statement! (Nor are there any foundational statements implicating either the imagination or the principles of the imagination.) But this is not because Hume’s use of the foundational metaphor has declined in general: on the contrary, he says that induction is “founded” on the relation of cause and effect, or experience, or the Uniformity Principle – and that it is *not* “founded” on reasoning, argument, or any process of the understanding – *significantly more* in the *Enquiry* than he does in the *Treatise*.<sup>67</sup> All this very strongly suggests that Hume himself came to recognise a firm distinction between what in the *Enquiry* he calls a foundation, and what he there calls a determining cause. Thus understood, it is clear that *custom* counts only as a *cause*, but the various informational relata are treated as (potential) *foundations*.

<sup>67</sup> The overall count is 7 instances in the *Enquiry* to 3 in the *Treatise*; see note 43 in §5.2 above for details.

There is a crucial asymmetry here, because it seems that a rational “foundation” can *also* be a determining cause, and Hume in the *Enquiry* does indeed treat *processes of reasoning* as potential causes as well as foundations. This marks a notable transition in his language, for in the *Treatise* he *never* speaks of a “process” of thought or reasoning, whereas in the *Enquiry* he *never* talks of reason itself as a cause.<sup>68</sup> (So we find nothing like the striking statement in *Treatise* 1.4.1.1 that “Our reason must be consider’d as a kind of cause, of which truth is the natural effect”.<sup>69</sup>) This change from speaking of *reason itself* as a determining cause (e.g. T 1.3.6.4, 1.3.6.12, 1.3.7.6) to a focus instead on *reasoning processes* brings Hume’s expression broadly into line with his practice in regard to the imagination (see note 43 in §5.2 above), confirming that it is systematic rather than accidental.

If reasoning processes can serve as both foundation and cause, whereas custom can be only a cause, then this opens the possibility of posing coherent but unanswerable questions, like that which introduces Hume’s discussion in Part 2 of *Enquiry* Section 4:

... if we still carry on our sifting humour, and ask, *What is the foundation of all conclusions concerning from experience?* this implies a new question ... (E 4.14)

In §7.1 above, I suggested that *custom* was the obvious answer to this question, but it now seems not to be so. Nor is there any other positive answer to be had, because Hume’s conclusion that “All inferences from experience ... are effects of custom, not of reasoning” (E 5.5) apparently rules out the sort of causation that could provide – at the same time – a *foundation*. Thus in competing successfully for the causal explanatory role, custom effectively excludes anything else from the foundational role which it itself is unable to fulfil. Perhaps, then, there is hidden depth in Hume’s declaration of intent: “I shall content myself, in this section, with an easy task, and shall pretend only to give a negative answer to the question here proposed” (E 4.15).

<sup>68</sup> Here are all the relevant causal passages. At E 5.4, we find someone “determined to draw” an inference, though “convinced, that his understanding has no part in the operation”; “some other principle ... determines him”. Then at E 5.5 “we are determined by custom alone” to make the inference after observing repeated instances, and “Reason is incapable of any such variation [in response to repetition]”. The terms at E 5.20 are not unambiguously causal: “This transition of thought ... proceeds not from reason. It derives its origin altogether from custom and experience.” Hume is far more comfortable applying causal terms to *processes* of reason, rather than to reason itself. At E 4.23, he denies that a child is “led into [an assumption of uniformity] by any process of argument or ratiocination”, concluding that “it is not reasoning which engages us to suppose the past resembling the future”. At E 5.2 the mind is “not engaged by argument to make this step”, and at E 5.4 it is not “by any process of reasoning, he is engaged to draw this inference”. At E 5.5, Hume implies that induction takes place “without being impelled by any reasoning or process of the understanding”, and concludes “All inferences from experience, therefore, are effects of custom, not of reasoning.” Meanwhile note 8 to E 5.5 talks of “arguments, which ... are supposed to be the mere effects of reasoning and reflection”. At E 9.6, he says that “the experimental reasoning ... which we possess in common with beasts, and on which the whole conduct of life depends, is nothing but a species of instinct or mechanical power, that acts in us unknown to ourselves”. Finally, at E 11.28, he discusses people’s fallacious reasoning, suggesting that “Whether this reasoning of theirs be just or not, is no matter. Its influence on their life and conduct must still be the same.”

<sup>69</sup> Allison (2008, pp. 128-9) emphasises this statement, insisting that the causal and foundational locutions are “extensionally equivalent, since whatever is ‘determin’d by’ reason is ‘founded on’ it and vice versa”. He goes on, “I find it more plausible to let the causal reading ‘wear the trousers’; otherwise we would either have to accuse Hume of being deeply confused about a fundamental point of his philosophy in the *Treatise* or see him as changing his mind about this point in the *Enquiry*.” He then alludes in a footnote to the results of a “computer search of the *Treatise* and the *Enquiry*” which he undertook to back up his claim of extensional equivalence. No results of this are shown, but I hope he would agree that the evidence provided here is indicative that “more Curiosity & Research gives a direct opposite Turn from the same Principles” (HL i 152).



The upshot of all this is that “if we still carry on our sifting humour” in the search for ultimate foundations, we hit rock bottom with something that has a *cause*, but no *foundation*. And that something is the tendency, rooted in our animal nature, to infer from past to future, from experienced to not-yet-experienced. Importantly, however, its status of being *caused* by “principles of the imagination” does not iterate up the transitive chain to infect our individual inductive inferences in the way that “founded on the imagination” threatened to do in §7.1. Inductive inferences (at least those that are “respectable”) remain *founded* on reason – because induction counts as an *operation* of reason – even though induction itself has no foundation, but only a *cause* in imagination-like processes.

This section has attempted to outline a coherent position, based squarely on Hume’s texts, that can make good sense of his foundational metaphor and the way it functions within his argument. We started from the observation that foundation *on custom* seemed anomalous, prompting the idea that two sorts of foundation would be needed to provide a coherent account. This was then very strongly corroborated by Hume’s texts, which clearly indicated a growing appreciation on his part that such a distinction (between “rational” foundation and “mechanical” causation) was required. The result is a plausible – and I think plausibly Humean – position, which appears to evade the ambiguities, double-standards, and inconsistencies that previously threatened us, though of course much more work would be needed to complete this account, spelling out the nature of the foundational relation on which it is based and so forth. However a more immediate worry might seem to be obvious: can we really suppose that Hume would consider a process *rational* which rests on a purely *mechanical* basis?

To answer this worry, suppose that Hume were to take the alternative view, that any rational process must have a rational foundation. It would then immediately follow that for anything to be founded on reason, it must be founded on reason “all the way down” (i.e. it would have to be solidly founded on evidence or principles, which are either immediately apprehended by reason, or else themselves solidly founded on evidence or principles which are either immediately apprehended by reason or ..., etc.). Hume would thus be committed to a strongly rationalistic notion of reason, whose demands would be impossible to fulfil without abandoning the heart of his philosophy. At no point would he be able to halt the foundational regress by acknowledging that ultimately the principles of our reason can (legitimately) be founded on basic psychological mechanisms. So the only possible outcomes would be either extreme rationalism or incurable scepticism. Some interpreters have indeed seen Hume as impelled towards radical scepticism by precisely this kind of regressive train of thought.<sup>70</sup> But it would be completely at odds with his efforts to ground a conception of reason on the contingent operations of the human mind, and in particular, flatly incompatible with treating induction as genuine operation of reason.

<sup>70</sup> Both Stroud (1977, pp. 60-2) and Kenyon (1985, pp. 255-7) attribute this to Hume in the context of his argument concerning induction, but neither justifies the attribution textually, and there is no evidence of it in either *Treatise* 1.3.6 or *Enquiry* 4. The nearest Hume comes to it is when he highlights the circularity of founding the Uniformity Principle on inductive inference, but this is a very specific circularity, and quite different from a universal regress of reasons.

### 7.3 Antecedent and consequent scepticism

Thus Hume’s general approach to the foundation of induction is, it seems, the only option available for anyone but an extreme rationalist. Reason must ultimately be grounded in basic human capacities which cannot possibly be rationally founded “all the way down”. This impossibility, indeed, is so clear that to treat our faculties as untrustworthy until they have been given such a thoroughgoing rational foundation is to make a massively unreasonable demand:

There is a species of scepticism, *antecedent* to all study and philosophy, which is much inculcated by DES CARTES and others ... It recommends an universal doubt ... of our very faculties; of whose veracity, say they, we must assure ourselves, by a chain of reasoning, deduced from some original principle, which cannot possibly be fallacious and deceitful. But neither is there any such original principle, which has a prerogative above others, that are self-evident and convincing: Or if there were, could we advance a step beyond it, but by the use of those very faculties, of which we are supposed to be already diffident. The CARTESIAN doubt, therefore, were it ever possible to be attained by any human creature (as it plainly is not) would be entirely incurable; and no reasoning could ever bring us to a state of assurance and conviction upon any subject. (E 12.3)

Here, in Hume’s mature and most explicit discussion of the significance of scepticism, he appears to be saying that we should start by ascribing default authority to our faculties,<sup>71</sup> at least until some weakness in them has emerged “*consequent* to science and enquiry” (E 12.5). A few pages later, during his exploration of the various types of consequent scepticism, he goes on to outline his own famous argument from *Enquiry* 4, in the sceptical tones that we saw in §6.4 above:

nothing leads us to [inductive] inference but custom or a certain instinct of our nature; which it is indeed difficult to resist, but which, like other instincts, may be fallacious and deceitful. (E 12.22)

But he does not in the least suggest that these reflections should lead us to give up induction, and his response is rather to challenge the sceptic by asking:

*What his meaning is? And what he proposes by all these curious researches?* ... a PYRRHONIAN cannot expect, that his philosophy will have any constant influence on the mind: Or if it had, that its influence would be beneficial to society. On the contrary, he must acknowledge, if he will acknowledge any thing, that all human life must perish, were his principles universally and steadily to prevail. ... It is true; so fatal an event is very little to be dreaded. Nature is always too strong for principle. ... all [the sceptic’s] objections ... can have no other tendency than to show the whimsical condition of mankind, who must act and reason and believe; though they are not able, by their most diligent enquiry, to satisfy themselves concerning the foundation of these operations, or to remove the objections, which can be raised against them. (E 12.23)

Our epistemic condition is thoroughly “whimsical”, for we are irresistibly reliant on faculties that we are unable to defend against sceptical objections which, although they “*admit of no answer*”, yet “*produce no conviction*” (E 12.15 n. 32).<sup>72</sup>

<sup>71</sup> Here I am indebted to Garrett (1998), pp. 186-7, who insightfully draws attention to the relevance of Hume’s discussion of antecedent scepticism to this issue of default authority. Winkler (1999) also provides interesting observations on the links between *Enquiry* Sections 4 and 12.

<sup>72</sup> Much of the literature on Hume is marred by a focus – sometimes verging on fixation – with the crude question of whether he is or is not a “sceptic” about induction, and such literature often makes equally crude assumptions about what a “sceptical” view must entail (e.g. a complete rejection of induction). But the clear message of his mature treatment of the subject is that such a question is likely to have no simple answer: we have first to ask “What is meant by a sceptic?” (E 12.2), and to expect a nuanced reply. In some respects, Hume’s attitude to induction is sceptical (e.g. relative to previous views about its cognitive basis); in others, it is not (e.g. he insists that we should – and necessarily

It is important to notice, however, that the sceptic's "philosophical objections" (E 12.22) against induction are relatively easy to tolerate complacently, for there is nothing in them – once we have appreciated the unreasonableness of excessive antecedent scepticism – to motivate us to abandon induction, *even were we able to do so*. These "objections" reveal our dependence on an unsupported assumption of uniformity, but why should that upset us? Given the impossibility of pure rational insight into the nature of things,<sup>73</sup> we have to begin by taking for granted *some* empirical assumption if we are to be able to draw any conclusions at all beyond our memory and senses, and in that case, the Uniformity Principle seems as good as any:

... this conformity betwixt the future and the past ... is a point, which can admit of no proof at all, and which we take for granted without any proof. (A 14)

Moreover induction has proved invaluable through all our previous experience, which admittedly "proves not, that, for the future, it will continue so" (E 4.21), but at least vindicates it as reflexively self-consistent. In the light of this remarkable, though inexplicable, apparent "pre-established harmony between the course of nature and the succession of our ideas" (E 5.21), it is hard to see how induction could be *better* supported than it is. So Hume's calm reaction to the sceptic seems entirely appropriate, in pointing out the futility of his "objections" as anything more than philosophical curiosities. Even if we fully accept them, the "sceptical" arguments yield no good reason – either pragmatic or theoretical – for giving up on induction, nor even for excluding it from the honorific category of *reason*.<sup>74</sup>

## 8 The context and significance of Hume's investigation

We started by surveying a wide range of interpretations of Hume's famous argument concerning induction, noting that the key question they raised was his use of the puzzling faculty term, *reason*. This set us off on a general investigation of his faculty language (and that of his contemporaries) which – after detours through various of his other philosophical positions – has finally brought us back to the famous argument and its potential sceptical implications. There is still much more that could be discussed here, for example regarding the grounds and adequacy of the *Enquiry's* riposte to the

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do – rely on it to reach conclusions about matter of fact). In the *Dialogues*, he remarks dismissively that simplistic questions regarding "the degrees of doubt and assurance, which we ought to indulge with regard to all reasoning ... are commonly at the bottom, verbal, and admit not of any precise determination. ... the sceptic, from habit, caprice, or inclination, insists most on the difficulties; the dogmatist, for like reasons, on the necessity." (D 219 n.)

<sup>73</sup> Including, at least in Hume's view (but less obviously), pure rational insight into *probabilistic* relations.

<sup>74</sup> It is an interesting, if unanswerable, question where Hume would ultimately have placed induction within his faculty structure if his investigation of its basis, instead of proving so amenable to the complacent mitigated scepticism of *Enquiry* 12, had cast *serious* (even *practical*) sceptical doubt on its fitness for truth-discovery. Perhaps consideration of his more radical sceptical arguments in the *Treatise* (notably 1.4.1 and 1.4.2) can provide some basis for informed speculation about this (dubiously coherent) question. But as things stand, it seems clear that his famous argument concerning induction is primarily intended to analyse the sub-cognitive processes that underlie an acknowledged "operation of the understanding" – as in the title of *Enquiry* 4 – rather than to raise the question of whether induction deserves that honorific classification in the first place. This does not imply, however, that *all* "probable reasoning" will qualify for the honour, as *Treatise* 1.3.13 – on "unphilosophical probability" – makes clear. In judging whether *unphilosophical* inductions count as genuine operations of *reason*, we enter the ambiguous (or at least nuanced) territory of §6.3 above, but for the purposes of Hume's key epistemological discussions, they presumably do not.

sceptic, its relation to the various discussions in the earlier *Treatise*,<sup>75</sup> and how far it can take us towards grounding a distinction between respectable scientific inference and irrationality.<sup>76</sup> But these issues must wait for another occasion, and I shall end with a brief reflective overview of Hume's philosophy of induction, highlighting some remaining issues and giving a mildly speculative reconstruction of how Hume came to this position, helped or hindered by the language of faculties. This will also enable an appreciation of the huge significance of his assault on the perceptual ideal of reason, by which he anticipated contemporary developments in cognitive science by 200 years.

Hume's central philosophical achievement was to undermine the dominant view of human nature as fundamentally – or at least ideally – *rational*, our pre-eminent faculty being conceived in terms of a transparent *perception* of truth. This view dated back to the ancients, but the Enlightenment revolution had only embedded it deeper within the general philosophical consciousness. In a world invigorated by the dazzling triumphs of reason achieved by Galileo, Descartes, Newton, and others, it was only natural to take their methods as the ideals to follow. But understanding of such methods remained limited by the perceptual ideal, which accommodated relatively comfortably the thought-experiments of Galileo or the geometrical mathematics of Descartes and Newton, but came up short when applied to the probabilistic experimentalism of the new science. Descartes and his successors (including Arnauld and Malebranche) ignored the problem, meanwhile fostering an explosion of rationalism which inspired philosophers across Europe to seek deep understanding of the universe, rendering its principles at least "intelligible" if not *a priori*. But Locke – whose empiricist temper, medical experience, and friendship with Boyle presumably made the uncertainties of experimental science impossible to ignore – attempted to incorporate "probable reasoning" into his perceptual model of human thought, with the unconvincing results we saw earlier (in §3.1 and §3.4).

Leibniz came to these issues from a different direction, with a particular interest in legal reasoning and testimony (of which traces seem to be detectable in Hume's discussion of miracles). In his *Theodicy*, which Hume owned, Leibniz lamented the general dearth of probabilistic understanding, but he did little to remedy it. Hume read both Locke and Leibniz, and took the hint:

The celebrated *Monsieur Leibniz* has observed it to be a defect in the common systems of logic, that they are very copious when they explain the operations of the understanding in the forming of demonstrations, but are too concise when they treat of probabilities, and those other measures of evidence on which life and action entirely depend ... In this censure, he comprehends the *Essay on human understanding*, *Le Recherche de la verité*, and *L'Art de penser*. The author of the *Treatise of human nature* seems to have been sensible of this defect in these philosophers, and has endeavoured, as much as he can, to supply it. (A 4)

Not content with Locke's vague hand-waving about supposed perceivable probable connexions, Hume

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<sup>75</sup> Hume's endorsement of induction in the *Treatise* has been attributed to considerations of naturalness and efficiency (Winters 1981), successful reflexivity (Baier, 1991, pp. 99-100), common-life reinforcement in response to scepticism (Falkenstein 1997, pp. 54-9), and various forms of externalism (Loeb 2006, pp. 333-6).

<sup>76</sup> Millican (1995, pp. 133-5; 2002, pp. 164-6) suggests that in the *Enquiry* Hume's defence of induction is implicitly elevated – through his discussions of liberty and necessity, analogy, miracles and the Design Argument – into a general vindication of science against superstition, on the basis of what he calls "methodological consistency".

set out to reveal how human probable inference actually works, quickly focusing on the key relation of causation and then going on to analyse in detail the ideas and mental processes involved. His surprising conclusion was that *perceivable* connexions play no role whatever, and so far from probable inference's being based on any rational *understanding* of the ideas and relations involved, it instead turns out that the inference is conceptually prior even to the idea of causation itself:

Perhaps 'twill appear in the end, that the necessary connexion depends on the inference, instead of the inference's depending on the necessary connexion. (T 1.3.6.3)

Thus probable inference is removed from the supposed domain of rational *perception* or intellectual *insight*, and relocated into the domain of instinctive animal behaviour. Human reasoning – except within the limited realm of mathematics – is relegated to dependence on associative mechanisms: the humble, earthy motions of the “animal spirits” that Locke had castigated as a source of “Madness”.<sup>77</sup>

These startling results of Hume's “chief argument” may be the crowning achievement of his philosophy, but he combined this investigation with a wide range of other enquiries, some of which fed into his analyses of causation and probable reasoning. Most urgently, he needed a taxonomy of the mind's contents – ideas, impressions, relations and so forth – in order to categorise their types, sources and mechanisms. All this naturally invited expression in the standard language of faculties, which usefully provided him with a fairly systematic framework for orientating his investigation. When he came to present his conclusions, however, the faculty language which had initially seemed so helpful began to get in the way. Perhaps the fundamental problem here was that Hume's faculty terms gave a categorisation of types of process that he applied *both* at the level of manifest mental function (such as probable inference, visual perception, or moral judgement), *and also* at the explanatory, sub-cognitive level. This was a recipe for confusion in at least four ways. First, because the description most appropriate to a manifest function – defined in terms of what the mental operation *achieves* – can be far less suitable as the description of an underlying *process*. Secondly, because the various faculty terms differ greatly in just this respect – with *reason*, for example, being primarily functional, whereas the principles of *the imagination* are essentially mechanical – though Hume treats both as rival sources of explanation at the same level. Thirdly, because a single manifest operation can result from a combination of heterogeneous sub-processes, whereas Hume – intent on subverting the traditional picture of rational human nature – tends to focus on the simplistic question of whether or not *reason* (as opposed to *the imagination*) is adequate to the task. Finally, because once Hume has thus identified what he sees as the principal underlying faculty, some linguistic indeterminacy (or even confusion) is automatically generated in precisely those interesting cases where the manifest operation belongs to a different faculty. So in particular *the imagination* starts off referring to the activity of

<sup>77</sup> See *Essay* II xxxiii 3–4 for Locke's references to “madness”, cf. §4.3 above. He goes on to describe custom's operation as follows: “Custom settles habits of Thinking in the Understanding, as well as of Determining in the Will, and of Motions in the Body; all which seems to be but Trains of Motion in the Animal Spirits, which once set a going continue on in the same steps they have been used to, which by often treading are worn into a smooth path, and the Motion in it becomes easy and as it were Natural.” (*Essay* II xxxiii 6). The nearest Humean equivalent is at T 1.2.5.20.

overt “imaginative” thinking – such as the arbitrary combination or associational flow of conscious ideas – but is later identified as the underlying mechanism of probable inference. *Reason*, meanwhile, starts off being understood as referring to operations that involve apprehension of truth in a broadly traditional manner, but then acquires quite different connotations after one of these key operations is revealed as working quite differently, through processes that are categorised as belonging to a rival – and strongly contrasting – faculty. It is no wonder that Hume, like so many of his interpreters, sometimes evinces confusion of the faculties!

To cut through this confusion we have had to be far more explicit than Hume himself about the distinction between levels of explanation and the role of the faculty terms. Our reward has been to discover that the confusion in Hume's texts is mainly at the level of presentation, and that the theory behind it is generally clear and coherent. He does not violate his own (and Locke's) strictures by taking faculties to be agents, and his entire theory, though expressed in terms of faculties, can equally well be parsed in terms of mental functions and underlying processes. Understood in this way, *reason* stands proxy for *cognitive* operations – those that give epistemic access to what is the case, to truth and evidential relations – and Hume appears to start from entirely conventional assumptions about what these are, namely: *memory*, *sensation*, *reflection*, *intuition*, *demonstration*, and *induction*. However he does not rule out a priori that there could be other forms of cognitively respectable process. Though he “cannot imagine any such reasoning”, he declares himself “still open to instruction, if any one will vouchsafe to bestow it on me” (E 4.20).

Hume's willingness to grant default authority to our natural faculties, and to respect induction even after its source is revealed as a humble animal instinct, would today strongly suggest an *externalist* perspective, in which epistemic authority is grounded on the objective reliability of our faculties rather than our ability to justify them. But though Hume is undoubtedly a pioneer in that direction, there are clear signs in his discussions – both of scepticism in general, and of induction in particular – that he himself did not cross the boundary. Here one pertinent (but so far I believe neglected) question is why, within the famous argument, he treats inferential circularity as immediately ruled out, preventing the Uniformity Principle from being “founded” on induction. This prohibition, though entirely understandable on the traditional view of reason, should not perhaps be quite such an obvious matter as far as Hume himself is concerned, and his taking it for granted may betray an implicit (though contextually unsurprising) internalist prejudice. For if induction were to qualify as cognitive – as a genuine operation of *reason* – on purely externalist grounds (e.g. based on the fact that the world is such as to render induction reliable from a “God's eye” point of view), then it is no longer so clear why an inductive argument for the Uniformity Principle could not count as a legitimate foundation in reason, at least as far as the individual reasoner is concerned. The fact that induction implicitly presupposes the Principle – in the sense that any inductive argument by its very nature takes the past as evidence for the future – would then be irrelevant to the question of whether induction qualifies as an operation of reason. So why, in that case, should induction not be used to provide a foundation in (externalist) reason for the Uniformity Principle? At least there would be

plenty more to be said here, and the fact that Hume sees no need even to discuss the issue tends to confirm that he is operating with an internalist concept of rational evidence.

A modern-day Hume would probably wish to take the externalist alternative very seriously, but internalist assumptions were only to be expected in a world dominated for so long by a *perceptual* understanding of reason, and it was to be another 250 years before such assumptions would start to be widely challenged. Hume's famous argument – had it been viewed sympathetically as a powerful contribution to cognitive understanding instead of an abhorrent sceptical threat – might well have prompted such a challenge. For it picks on the standard cognitive operation which is least amenable to being understood as functioning perceptually (despite Locke's efforts), and proves that it cannot be given any plausible perceptual grounding. Induction's crucial presupposition, that the past provides evidence about the future, cannot be founded on anything that we perceive through the senses, nor can it be intuited or demonstrated by rational insight from anything that our past experience – either sensory or intellectual – has revealed. This leaves only induction itself as a possible ground, but as we have seen, this is ruled out as viciously circular.

Hume's conclusion, that induction cannot be founded on reason, has two aspects which are somewhat mixed together by his multi-level, multi-purpose faculty language. And his procedure of seeking a causal foundation in the imagination only *after* reason has been dismissed strongly indicates a presumption that a *rational foundation* for induction – a grounding in apprehended truth and evidence – would at the same time provide a *causal explanation* for it. In fact the two issues are potentially distinct, and a *non-perceptual* foundation in reason could still leave the causal question open.<sup>78</sup> Our imagined modern-day externalist Hume, for example, might insist that induction counts as a legitimate operation of reason on the basis of its reliability, but he would still be faced with the question of *how* induction operates. So one could envisage an entirely non-sceptical contemporary version of Hume's argument, focusing only on the causal question and without any epistemologically-coloured reference to faculties at all. The question would simply concern how inductive inference works, and the answer would be that, since it cannot operate by means of *perceived reasons*, it must operate in some other way, with customary association of ideas as the obvious candidate.<sup>79</sup> Such an

<sup>78</sup> In other contexts Hume must presumably have been aware of this, for his recognition of induction as a legitimate operation of reason implies that anything proved by inductive inference will have a grounding in reason, without thereby prejudging the causal basis of such inference. (It is also worth noting that the first paragraph of *The Natural History of Religion* draws just this distinction, for different reasons.) But the point made here does not anyway amount to a serious objection to Hume's argument, because his procedure makes good sense in ad hominem terms: the position that he is targeting claims that inductive inference is *both* founded on, *and* causally explained by, the grasp of reasons.

<sup>79</sup> I take it that something like this thought lies behind the Garrett and Owen interpretations, though Garrett (1997) focuses on what causes us to engage in induction, rather than how it operates (his 1998 and 2001 get closer to Owen's view). However the cases are not parallel when "stepwise inference" is substituted for "perceived reasons", partly because stepwise inference is a potential candidate description of what induction *is* rather than a would-be causal basis. If on the other hand induction *is not* taken to be a form of stepwise inference, then the supposed Humean argument – in asking whether the Uniformity Principle can be founded on induction – would not be asking whether it can be founded on stepwise inference. Owen evades the horns of this dilemma by viewing Hume's "reason" as literally and self-consciously ambiguous (1999, pp. 132-3); Garrett attempts to do so by focusing specifically on the Uniformity Principle, that is, the gap between past and future, as the step that has to be bridged (1998, pp. 183-4; 2001, p. 209).

argument need not in any way confuse epistemological with causal questions, despite making reference to perceived reasons, because perceptual reasons are distinctive precisely in merging these questions together: *to perceive that P is true* is at the same time to be given *both* a cognitive grasp of *P* *and also* a causal mechanism for acquiring belief in *P*.

Perceptual reasons also merge together two separable aspects of a "causal mechanism", two different levels of explanation which are easy to conflate when we discuss *how* a method of inference operates. One of these is the *algorithmic* question, concerning the informational steps (if any) that constitute such inference, and the other is the *substantial* question: what physical or other processes bring it about that the algorithmic steps are followed? These issues have only come into focus since Turing, because fully separating the various threads requires a notion of algorithm that does not depend on consciously represented information. Perception, as traditionally understood in its role as the motor of rational inference, is paradigmatically non-algorithmic (cf. *T* 1.3.2.2), purporting to account for the acquisition of certain (immediately perceptual) beliefs by what is supposed to be a causally explanatory process of *direct apprehension*. By its very nature this seems to resist any further decomposition, either causal or algorithmic, and it is hard to understand how, if at all, such direct perception – which appears to be almost magical from this perspective – can be possible even in principle. Again, these issues have come into much sharper focus through the post-Turing development of cognitive science, with systematic attempts to implement automated vision systems which have resulted in fascinating discoveries about the conceptual steps involved in perceptual achievements such as object recognition. It turns out that what is experienced phenomenologically as "direct" perception or apprehension is very far from being as immediate as it seems, *not only* because of the obvious role of physical causal intermediaries (such as light rays, lens, retina, nerves etc.) *but also* because it involves complex algorithmic processes – edge detection and so forth – which are completely unconscious. Thus conscious awareness is revealed as a hopelessly inadequate guide to what is really going on in our minds, *even in respect of information processing*. By contrast, conceptual analysis of the processing involved – the same sort of thing that Hume was up to but today, of course, wonderfully assisted by "experimentation" using powerful computer models – sometimes proves to be far more informative.<sup>80</sup>

<sup>80</sup> Such experimentation is an interesting mix of Humean categories, and represents a novel methodology beyond his imagination, in degree if not in kind. The outcome of complex computer algorithms is, in a sense, a priori, because the results that they generate could "in principle" be worked out through calculation, but their huge complexities (and inconceivably large search spaces, especially when the processes are partly stochastic in nature) often make empirical trial the only feasible means of investigation. Meanwhile, analysis of how animals and humans achieve certain forms of information processing – the solutions discovered by evolution – can provide an invaluable guide for our limited imagination, even where the solutions could "in principle" be revealed by a priori analysis. As Hume was well aware, the brutal fact is that unassisted human reason is pathetically weak and prone to error even in the demonstrative sciences (cf. *T* 1.4.1), but he could not foresee that an automated solution to this might become available, which fundamentally expands the potential for combining empirical with conceptual investigation. In a 1998 debate with Garrett, Millican's title raised the question "Hume on Reason and Induction: Epistemology or Cognitive Science?". His answer should have been that Hume's treatment of induction is *both* epistemology *and* cognitive science. (More broadly, the interpretation presented here can be seen as combining significant aspects of both their views: like Garrett, I reject the ambiguity thesis and see Hume as ascribing authority to induction throughout; like Millican, I take *reason* to embrace all sources of evidence and see Hume's primary target as a perceptual understanding of it.)

Now is not the time to explore these matters further, but we should note – and applaud – the momentous significance of Hume’s two revolutionary contributions here. First, in his argument concerning induction, he introduced the seminal concept that a method of inference worthy of the name (not to be dismissed in Lockean fashion as a form of “madness”) might operate by sub-cognitive steps that are not dependent on the perception of transparent connections between the relevant ideas. Secondly, in his discussion of the belief in body, he revealed for the first time something of the level of conceptual complexity involved in the perceptual identification of persisting physical objects. Previous philosophers had taken both intellectual and physical perception to be relatively unproblematic, as an ideal paradigm of what cognition should be. Hume himself did not completely escape from this paradigm, but he subjected the perceptual ideal to a withering attack which, had it been fully appreciated at the time, might have hastened the development of cognitive science – including the understanding of inference and algorithmics – by nearly two centuries.

### Appendix: Hutcheson’s 1742 taxonomy of the faculties

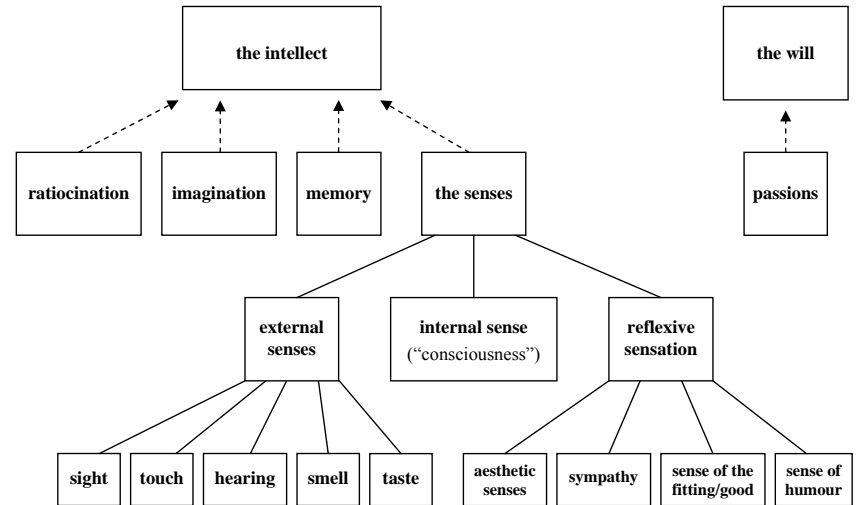
In §3.4 we saw a brief outline of the “common Divisions of the Faculties of the Soul” given by Hutcheson in a passage from his *Illustrations upon the Moral Sense* which he added in 1742 (pp. 219-20). In the same edition, he also added a very similar footnote to his *Essay on the Nature and Conduct of the Passions and Affections* (pp. 30-1), which explicitly identifies “the understanding, or reason”. The date is intriguing, because in 1739-40 Hutcheson had seen Hume’s manuscript of *Treatise* Book 3 and the published Books 1 and 2 (sent to him by Kames), had corresponded with Hume, and had even assisted him in finding a new publisher. Hutcheson’s own second edition of his *Essay* and *Illustrations* had appeared in 1730 without the taxonomic paragraph or the footnote, so it is possible that he had been pondering on these matters for some time and shared relevant manuscripts with Hume.<sup>81</sup> On the other hand, perhaps it was discussions with Hume that persuaded him, or perhaps prompted him to insist, that “Writers on these Subjects should remember the common Division of the Faculties of the Soul”?

In Part II of his *Metaphysicae Synopsis* (first published in 1742 then expanded in 1744), Hutcheson greatly enlarged his account of the faculties, starting (§2) with a general division between *the intellect* and *the will*. Within that division, the *senses* – external (§3), internal (§4), and reflexive (§5) – “report to the intellect” (1744, p. 112), along with *memory*, *ratiocination*, and *imagination* (§6).<sup>82</sup> Various complications follow, and the will (to which the *passions* report) is discussed at

<sup>81</sup> In 1744, Hutcheson sent Hume a copy of his *Philosophiae Moralis Institutio Compendiaria* (HL i 45): how much other writing might have passed between them over these years?

<sup>82</sup> I use the words “intellect” and “ratiocination” to reflect the Latin words used by Hutcheson (“intellectus” and “ratiocinandi” respectively). In the modern translation by Michael Silverthorne, from which the quotations are taken, these are rendered as “the understanding” and “the power of reasoning” respectively. Unfortunately Hutcheson says almost nothing about the latter, but gives it prominence in the heading of §6 between “memory” and “imagination”.

comparable length, but the most important features can be summarised as follows (here a dotted line indicates a “reporting” relationship, and a solid line constituent categories):



Hutcheson’s taxonomy is clearly more structured and sophisticated than the Humean taxonomy we identified in §2.2, the main differences being as follows:

- (a) Hume does not specify any “reporting” hierarchy, and hence puts *the intellect* (*understanding* or *reason*) alongside – rather than above – *the imagination*, *memory* and *senses*. This presumably reflects his rejection of the view of the intellect as an executive overseer making judgements on the deliverances of subordinate faculties. Instead, as we saw in §2.1, he sees human judgement as a form of vivid conception founded on the imagination.
- (b) Relatedly, Hume nowhere distinguishes between *the intellect* (*understanding* or *reason*) in general and a more specific, and apparently subordinate, *power of ratiocination*.
- (c) Hume – like Locke – equates *internal sense* with *reflection*, whereas Hutcheson distinguishes the two, taking the former to involve “consciousness, by means of which everything that takes place in the mind is known” while *reflexive sensation* is “that sense which occurs to the mind when it is directed toward things previously perceived” (1744, p. 117). Amongst the categories of reflexive sensation, Hutcheson includes several “senses” that Hume would certainly not want to include in the (cognitive) domain of “the understanding”.

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Acknowledgements to be added.