

Remarks on Thomas Reid's allegedly Newtonian Science of the Human Mind

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Abstract

It is commonly assumed that Thomas Reid advocated a Newtonian approach to the study of mental phenomena. I argue to the contrary that there are few good philosophical reasons for such a characterization. Reid is highly critical of attempts to model the study of mind on the model of physics. Typical features of physical theory that Reid rejects for the study of mind are measurement of quantities, multi-layered axiomatic structure, and any analogy between mental and material phenomena. The only similarity there is between the study of material phenomena and mental phenomena is that both, according to Reid, are concerned with laws of nature. But quite unlike physics, in which laws serve as the backbone of theory (description, explanation), laws have an almost negligible part to play in Reid's treatment of mental phenomena. A main reason for this, I suggest, is that most operations of the mind typically involve exercise of active power, that is, we take part in them as agents, we engage in them.

0. Introduction

Routine has it that the Scottish philosopher Thomas Reid (1710–1796) advocated a Newtonian approach to the study of mental phenomena.¹ I argue to the contrary that there are few good philosophical reasons for such a characterization, however useful it may be as a merely historical classification. In fact, not only is Reid critical towards attempts to model the study of mind on the model of physics, including such features of physical theory that were associated at the time with Newton, in addition Reid's own efforts to reform the study of the mind bears little resemblance to anything of the sort of theories that might reasonably be associated with Newton. There is, however, a stronger claim to be made: Even if Reid regards mental phenomena as largely speaking natural phenomena, and as such should be

¹ See for instance Yaffe (2004), p. 3.

studied with the same rigour and in the same spirit as material phenomena, and even if he affirms, as he does, that laws of (mental) nature is something to be looked for in the study of mind, there are some fundamental reasons why a science of the mind, in fact, will not be much concerned with laws of nature. One important reason for this may very well be that Reid's description of the mind is based on the concept of mental acts, as opposed to, typically, Hume's approach in which the mind is seen as a stream of perceptions or mental states, without unity and connection. Another important reason, which Reid notes occasionally, is that insofar as the human mind has the capacity to exert active power, which for Reid implies possessing a power to act freely, it seems impossible to describe this aspect of the mind accurately in terms of deterministic laws of nature on the model of physics. Since Reid, however, never argues that, *because* mental phenomena are best described as mental acts rather than as a stream of Humean perceptions, *or because* we can act genuinely freely, *therefore* laws of nature are quite irrelevant to the study of the mind, I will suggest a deeper and more interesting feature of Reid's conception of human nature which explains why the science of the mind will not be much concerned with laws of nature. The reason is that most operations of the mind are such that we take part in them as agents; they are not events that merely happen to us, instead, we engage in them.

In what follows I will (1) set forth some of the reasons why Reid's science of the mind might be assumed to be a typically "Newtonian" enterprise, show (2) why Reid rejected various imitations of physical theory, explain (3 & 4) the limited role of law-like statements in Reid's reformed science of the mind, and lastly (5) suggest a reason why mental phenomena, they way Reid understands them, will only rarely and effectively be subsumed under laws of nature.

1. The science of the mind as a Newtonian enterprise

Newton's take-over of much of the natural philosophy scene in the 18th century inspired many attempts to transfer something of Newton's handling of scientific questions in mechanics, astronomy, and optics, not only to neighbouring subjects like electricity and chemistry, but also to the study of the phenomena of politics and morals, and life. Calls were also made to apply more rigorous methods to the study of mental phenomena, but what role Newtonian procedures ought to play in a reformed science of the mind was not always altogether clear. What are those excellent features of

Newton's treatment of physics that the scientist of the mind should learn from and try to repeat, adapt, or copy for his own field of study? Many things conspire to make it seem that Reid's quest for a new solid science of the mind had a lot to do with Newton. Indeed, as anyone familiar with his writings can see, Reid repeatedly refers to Newton with greatest admiration, and among the themes he specifically and repeatedly brings to the forefront is Newton's conception of science, specifically the *Regulae Philosophandi* that Newton set down in the third book of *Principia*.

The simplest way to link Newton with Reid's ambition to reform the science of the mind is by pointing to similar efforts of George Turnbull (1698–1748) and David Hume (1710–1776), whose writings explicitly and implicitly contained overt references to Newton and Newtonian ideas, and both of which certainly had an impact on Reid's own thinking in its earlier phases. Turnbull was Reid's main teacher at Marischal College, Aberdeen, his *Regent*, which means he taught all subjects except mathematics through three years of study. At the time Reid was in his early teens and Turnbull in his mid twenties. In 1740 Turnbull published *Principles of Moral Philosophy*, a work that contains an account of the mind based on the association of ideas and explicitly inspired by Newton's assertion in the *Opticks* according to which the very same method used successfully by Newton in natural philosophy should also work for moral sciences.² Reid studied Hume's *Treatise of Human Nature* (1739–1740) at the time of its publication, and Reid's whole oeuvre might very well be seen as a life-long engagement with Hume's philosophy.

Reid's background was enriched also by other Newtonian influences. Reid's teacher of mathematics at Marischal college was non less than the famous mathematician Colin Maclaurin, author of *Treatise of Fluxions* (1742) and *Account of Newton's Discoveries* (1748), and in addition Reid belonged on his mothers side to the famous Gregory family which contributed to the early introduction of Newtonian ideas in Scotland. These are well-known facts about Reid's philosophical and scientific background and they suffice to show that Reid could profit from a variety of sources of allegedly Newtonian thinking.

But we would do wrong to assume that Reid would not assimilate these influences in his own way. For one thing, he knew Newton's writings first

2 Turnbull quoted from *Opticks*: "And if natural Philosophy in all its Parts, by pursuing this Method, shall at length be perfected, the Bounds of Moral Philosophy will be enlarged." Newton (1979 [1704]). *Opticks*, Dover Publications: New York, p. 405.

hand. He had studied Newton's *Principia* together with John Stewart, his friend and class mate from Marischal College, who at young age had succeeded MacLaurin at Marischal in 1727 as professor of mathematics.³ Later, in the 1750ies Reid taught physics at King's College, Aberdeen, and his occupation with the meaning of Newton's teaching increased, which can be seen from his published books and in unpublished writings.⁴ For another thing, it will become clear as we proceed that Reid rejected the associationist models of the mind of Turnbull and Hume. Indeed, Reid explicitly rejected the idea that mental items can be treated in analogy with material bodies which are subjected to general laws of attraction.

2. Structural imitations of physics

Since alignment with Newton and his work was almost a national sport at the time in Britain and since we have every reason to think that Reid would rather form his own judgement of and from Newton's writings than merely succumb to second-hand sources, which by the way would only rarely play the same tune, we do best to look at some of the principled objections that Reid aired against misconceived adoptions of typical traits of physical theory in the study of mind. I will look at three aspects of physical theorizing that may very well be associated with Newton's physics: quantitative methods, axiomatic form, and mind-matter analogies.

2.1 Quantity and measurement

From remarks made in Reid's first published paper "An Essay on Quantity" (1748) it is clear that Reid did not believe that mathematics is the key to unfold the secrets of the human mind. In this small piece on measurement theory Reid criticises Francis Hutcheson's attempt, in his own words on the title page of the first edition of *An Inquiry into the Original of our Ideas of Beauty and Virtue*, "to introduce a Mathematical calculation in Subjects of Morality."⁵ The idea is to be able to "compute the Morality of any Actions" and for this purpose Hutcheson sets forth a number of "Proposition of Axioms" all of which are expressed in mathematical style. For instance, the

3 Broadie, Alexander (2004). "Reid in context", in *The Cambridge Companion to Thomas Reid*, Cambridge University press: Cambridge. Wood, Paul (1993). *The Aberdeen Enlightenment*, Aberdeen university Press: Aberdeen 1993, p. 19f.

4 See Reid (1995).

5 Subtitle of the first edition (1725) of *An Inquiry into the Original of our Ideas of Beauty and Virtue*. This subtitle was omitted in later editions, while the sections referred to remained.

formula " $M = BA$ " expresses an equivalence said to hold between "the moment of good" (M) and the product of the "benevolence" (B) and the ability (A) of an agent. In other words, to get a measure of the quantity of good produced by an agent, you multiply the benevolence of the agent with his practical ability to exert this benevolence. In similar style Hutcheson defines quantities of hatred, interest, and moral evil, in an array of formulas. Reid's criticism is principled and hard. He points out that, while it is intelligible to talk about different degrees of virtue, taste, pleasure, beauty, intelligence, etc., it is quite another thing to be able to measure them, that is, to assign numerical values according to an accepted standard of units.

To talk intelligibly of the Quantity of Pain, we should have some Standard to measure it by, some known Degree of it so well ascertained that all Men, when they talked of it, should mean the same thing; we should also be able to compare other Degrees of Pain with this, so as to perceive distinctly, not only whether they exceed or fall short of it, but how far, or in what proportion. Whether by a half, a fifth, or a tenth.⁶

In Reid's view there is nothing wrong in principle to introduce an "improper quantity" if it is defined in terms of "proper quantities". Speed for instance is an improper quantity which is defined in terms of distance and time. A proper quantity is a quantity which "is measured by its own Kind; or which of its own Nature is capable of being doubled or tripled, without taking in any Quantity of a different Kind as a Measure of it." Reid mentions extension, duration, number and proportion as proper quantities. Speed and quantity of motion, on the other hand, are improper quantities, and they can be measured because they are defined in terms of proper quantities.

For Reid an improper quantity is an invention or an "artifice" that works if and only if it is defined in terms of proper quantities. Reid's solution to the so called Vis-Viva controversy, that is, the controversy whether quantity of motion should be defined as the product of mass and velocity or as the product of mass and the square of the velocity, is that this is not a matter of finding out that true concept of quantity of motion which corresponds to reality. Instead, it is a matter of choosing between alternative definitions, something that should be decided by considering matters of convenience and simplicity in discourse. Reid does not mind therefore that Hutcheson

6 "An Essay on Quantity", section 1.

introduces quantities we never heard of, because there is a sort of instrumentalism to Reid's conception of improper quantities.

It is otherwise with proper quantities. In order to be measurable on their own they need to meet at least two conditions. First, they need to be structured in such a way as to allow that it is intelligible to say that some instance of the quantity is so and so many times bigger than another instance, and secondly, we need to have some criteria to tell us what proportions are instantiated, that is, a method of measurement. Now, it is clear that Reid has no confidence whatsoever that Hutcheson or anyone could meet these conditions.

Although attempts have been made to apply mathematical Reasoning to some of these Things, and the Quantity of Virtue and Merit in Actions has been measured by simple and compound Ratio's, yet I do not think that any real Knowledge has been struck out this Way: It may perhaps, if discretely used, be a Help to Discourse on these Subjects, by pleasing the Imagination, and illustrating what is already known; but until our Affections and Appetites shall themselves be reduced to Quantity, and exact Measures of their various Degrees be assigned, in vain shall we essay to measure Virtue and Merit by them. This is only to ring Changes upon Words, and to make a Shew of mathematical reasoning, without advancing one Step in real Knowledge.⁷

Fours decades later Reid repeated the verdict:

This may perhaps, in the way of analogy, serve to illustrate what was before known; but I do not think any truth can be discovered in this way. There are, no doubt, degrees of benevolence, self-love, and other affections; but, when we apply ratios to them, I apprehend we have no distinct meaning.⁸

2.2 Axiomatic deductive structure

The old idea that scientific knowledge ideally has a multi-layered axiomatic structure, which sprung from Euclid's *Elementa* and Aristotelian schemes of definition, gained momentum as a viable idea for natural philosophy with the

7 "An Essay on Quantity", section 4.

8 *Intellectual Powers*, p. 546.

gradual development of the mechanical sciences in early modern times. New and more effective applications of mathematics gave scientists new powers of prediction and explanation of astronomical and earthly phenomena, which in turn made it handy to structure expositions of theory in axiomatic style. Newton's derivation of Kepler's laws, and the incorporation of some work of Galileo and Huygens into the theoretical structure of the *Principia* also suggested that there might be many layers of laws of nature in which some are more basic than others. This is also Reid's vision of physics. Laws are general facts, but some laws are more general than others and they can be used to demonstrate laws that are less general. The most general laws we know we usually call laws of nature and they are the ones that end up as principles or axioms in treatises. Thus Reid explains the law that bodies falling towards the centre of the earth accelerate, by showing that this law is the necessary consequence of the laws of gravity and inertia together. Thus he also interprets Newton's work on ether theories as the search for a set of more general laws from which to demonstrate the law of gravity, and thus he discusses the question whether or not the law of gravity is deducible from the three laws of motion.

Now, Reid repeatedly stresses the importance for any science to get clear about its first principles. He argues that agreement in principles is requisite to conduct successful scientific arguments and that it is mark of a "mature" science that its first principles have been settled to the satisfaction of the scientific community.⁹ Beyond that, however, there is little to suggest that Reid envisioned an axiomatic and multi-layered structure for a mature science of the mind. Indeed, one of the faults Reid found in Hume's science of man was the ambition to rest a "complete system" on just a few principles (i.e. the copy principle and the laws of association). The very idea that the number of principles ought to be very small for a successful account of mental phenomena is, as we have already seen, prejudicial. In contrast, Reid's system contains a considerable number of principles that outnumber any theorems deduced from them or is explained by them. The contrast in this respect between Reid's own approach and Hume's was wholly clear to Reid, and it appears that he was sensitive to a critical remark made by Joseph Priestley – a stout advocate of associationist psychology – to the point that he (Reid) tended to explain the mind by an abundance of original and unaccountable principles when it would be more scientific, in Priestley's view, to reduce the number of principles as far as possible; preferably to

9 *Intellectual Powers*, p. 62.

principles of the association of ideas.¹⁰ It is true that a considerable part of Reid's efforts consists in detailed descriptions of mental phenomena which often end in the identification of "original principles" or "ingredients" that make up mental acts. In the *Intellectual Powers* Reid apparently responded to Priestley:

I believe the original principles of the mind, of which we can give no account, but that such is our constitution, are more in number than is commonly thought. But we ought not to multiply them without necessity.¹¹

A conclusion to make so far is that, with no urge whatsoever for a mathematical approach of measurement, and with no apparent desire for a foundation for the science of the mind consisting of a small set of principles or axioms, there is little reason for Reid to strive for a multi-layered axiomatic deductive structure based on laws of mental nature. We will see later that the principles that Reid tries to settle for the mind are only rarely of a law-like nature.

A short digression before going on: In view of the fact that Reid emphasized the importance for any science to settle "its principles" in order to be "mature" it should be asked what kind of relation between principles and superstructure he envisioned.¹² Unfortunately, it is difficult to find a detailed answer in Reid's writings. In the case of ethics, however, he specifically deny that it is a relation of evidence.

A system of morals is not like a system of geometry, where the subsequent parts derive their evidence from the preceding parts, and one chain of reasoning is carried on from the beginning; so that, if the arrangement is changed, the chain is broken, and the evidence is lost. It resembles more a system of botany, or mineralogy, where the subsequent parts depend not for their evidence upon the preceding, and the arrangement is made to facilitate apprehension and memory, and not to give evidence.¹³

10 Joseph Priestley, *An Examination of Dr. Reid's Inquiry* etc. p. 18ff.

11 *Intellectual Powers*, p. 349.

12 *Intellectual Powers*, p. 62, p. 457f. See also Callergård (2006) ch. 1, pp. 11ff for a discussion.

13 *Active Powers*, v, ii.

When Reid speaks about the principles of natural sciences it is to a great extent methodological principles that he is thinking of, such as to be found in the works of Bacon, Newton and the best scientists. Indeed, not even in Reid's famous epistemology of *first principles of common sense* is there anything to suggest that the principles to be settled will work as axioms or laws from which theorems, propositions and corollaries might be demonstrated. And even if Reid would think of these epistemic first principles as axioms from which singular everyday common sense beliefs might be derived, it is not clear that *that* derivation is part of the science of the mind. Indeed, the main business of the science of the mind seems to be to identify first principles, not to use them.¹⁴

2.3 Mind-matter analogies

Other features of physical theory that tempted Newtonian copycats were concepts of matter, motion, bodies, and forces. Reid's libertarianism about free will is explanation enough perhaps why he would resist any confounding between the realms of matter and mind, and between nomological necessity and freedom. His remarks against weak and bad analogies stand, however, independent of such worries. The problem with analogical reasoning is that the reliability of its conclusions depends on the similarity of the things compared. Reid therefore advises that analogy should be avoided in the study of mind and be replaced by careful introspective reflection, because no two kinds of phenomena seem to be more different than matter and mind.

Reflection is difficult however and that for two reasons. First, it is not an easy thing to attend to mental operations. Our mental capacities are suited to be used in dealing with everyday issues, such as external objects. The science of the mind is not a very natural pursuit for the mind. Secondly, however, even when we reflect successfully on mental operations, we are at loss to describe them accurately, that is, we do not have a scientifically suitable and established terminology by which to describe mental phenomena. What philosophers do in this situation, according to Reid, is to model their accounts of the mind on models of the behaviour of external bodies in motion. But this prejudice is not only due to sloppy reasoning and bad analogies. Philosophers share the prejudice with natural languages.

Almost all the words, by which we express the operations of the mind, are borrowed from material objects. To understand, to conceive, to

¹⁴ *Inquiry*, p. 216. *Intellectual Powers*, p. 452ff.

imagine, to comprehend, to deliberate, to infer, and many others, are words of this kind; so that the very language of mankind with regard to the operations of our minds, is analogical.¹⁵

All in all then, analogies are difficult to avoid and a menace to the science of the mind. Reid therefore finds ample ground for criticism of contemporary theorists of the mind whenever they are misled by the analogies of natural language or when they deliberately model mental phenomena similarly to our experience of material phenomena. In the conclusion of the *Inquiry* Reid highlights this feature of modern philosophy, which he traces from Descartes to Hume.

They acknowledge that nature hath given us various simple ideas: These are analogous to the matter of Descartes' physical system. They acknowledge likewise a natural power by which ideas are compounded, disjoined, associated, compared: This is analogous to the original quantity of motion in Descartes' physical system. From these principles they attempt to explain the phaenomena of the human understanding, just as in the physical system the phaenomena of nature were to be explained by matter and motion.¹⁶

Consequently Reid attacked the conception of the mind as a *camera obscura*, as a *sensorium*, and as a container of ideas.¹⁷ Similarly, Reid attacks *ideas* conceived as entities in their own right and as objects of thought.¹⁸ By rejecting, finally, *association of ideas* as the fundamental operation of judgement and thinking the service of laws describing the general patterns of mental phenomena, such as Hume's three principles of association, will, quite understandably, not be much asked for in Reid's science of the mind.

3. Laws of nature

So far we have only shown that Reid must have conceived the general structure of mental phenomena to be quite different from the structure of

15 *Intellectual Powers*, p. 54f. See also *Inquiry*, p. 14 & 204f.

16 *Inquiry*, p. 212.

17 *Intellectual Powers*, p. 21f, p. 91f. *The Philosophical Orations of Thomas Reid*, ed. D.D. Todd, transl. by Shirley Darcus Sullivan, Southern Illinois University Press, Third Oration (1759), p. 61f.

18 See for instance *Inquiry*, chapter V and *Intellectual Powers*, Essay II.

physical phenomena. It may still be asked, however: does not laws or law-like statements make a salient part of Reid's science of the mind? If that is the case, this would certainly be ground for some affinity with Newtonian style study of the phenomena of nature.

To answer this question, let us first decide what is meant by law in the context of Reid's philosophy. If 'law' is taken in the general sense of 'principles' or 'original principles' – expressions that abound in Reid's writings – the answer must be yes, indeed. But such a broad notion of law does not justify a connection with Newton and early modern physics any more than a connection with the whole of the philosophical and scientific tradition since ancient times. Better therefore to stick to a notion of law that sits well with Newton's physics and Reid's understanding of laws of nature. Reid's concept of laws of nature is most easily characterized as "constant conjunctions" between events. He expresses appreciation for Hume's analysis of causation provided it is understood as an analysis of *physical causation* (and not of causation proper, i.e. the active power of agents). Constant conjunctions are general contingent empirical propositions that are either true or false. They do not express any necessary connection between cause and effect, and they do not reveal the efficient causes of change.¹⁹

With this notion of law, the answer to our initial question in this section will still be yes: laws do play a role in Reid's science of the mind. In the early pages of the *Inquiry* (1764) Reid had stated quite programmatically that:

The man who first discovered that cold freezes water, and that heat turns it into vapour, proceeded on the same general principles, and in the same method, by which Newton discovered the law of gravitation and the properties of light. His *regulae philosophandi* are maxims of common sense, and are practised every day in common life; and he who philosophizes by other rules, either concerning the material system, or concerning the mind, mistakes his aim.²⁰

And this view seems to have been reaffirmed some twenty years later:

19 I discuss this in section 3 of "Thomas Reid's Newtonian Theism: his differences with the classical arguments of Richard Bentley and William Whiston", *Studies in history and philosophy of science*, 41 (2010), pp. 109–119.

20 *Inquiry*, p. 12.

The constitution of the human mind, and all that necessarily flows from its constitution, though it does not belong to what is now called *Natural Philosophy*, may justly be considered as part of the great volume of Nature. Being, therefore, the work of Nature, its powers, and faculties, their extent and limits, their growth and decline, and their connection with the state of the body, may, not improperly, be called phaenomena of Nature. And as far as these phaenomena can, by just induction, be reduced to general laws, such laws may properly be called laws of Nature.²¹

By such statements we should perhaps expect Reid to look for mental laws in his study of mind. The situation is, however, quite different. Reid's attempt to provide a more scientific and accurate account of the mind is not much concerned at all with laws, but rather with descriptions of the structure of a variety of mental operations. Specifically, he is concerned with phenomenological description of the components of mental operations, the specific type of objects mental acts are directed to, and the interrelations and dependencies in-between operations.²² In addition he tries to identify the typical concepts and beliefs that specific operations evoke under normal circumstances, and to identify those first principles of common sense that are implicit in their role as sources of evidence.

Another thing to note is that Reid's science of the mind is a deliberately eclectic science. It welcomes evidence from any scientific discipline if it casts light on the nature and workings of the human mind.²³ His approach is a pioneering multi-discipline combination of (to use modern terms now) *cognitive science* and *philosophy of mind* combined with anything that *linguistic, physiological, anthropological* and *ethological* observations may

21 *Thomas Reid on the Animate Creation*, ed. Paul Wood, Edinburgh University Press: Edinburgh, (1995), p. 185.

22 Reid tends to speak of "ingredients" of mental operations when analysing them. The operation of perception for instance has the ingredients of a conception of a thing and the irresistible belief in its present existence. At times Reid uses the expression "constant concomitant" to picture how ingredients are related. See Callergård (2006) p. 61f.

23 This, I would suggest, is at least part of the meaning of the subtitle of his first book – "on the principles of common sense" – and this point of view is also displayed in the chapter "Principles taken for granted" in *Intellectual Powers*.

offer.²⁴ This also explains why Reid finds so many occasions to remind his readers of Newton's *Regulae Philosophandi*: As much as there are laws of nature to be discovered within the bounds of this eclectic science, and as much as, in Reid's view, there are many inferior theories put forward by theorists to explain mental phenomena (such as by Descartes, Locke, Hume, Hartley and Priestley) it is only to be expected that Reid feels that he must remind us of what is meant by explaining natural phenomena by laws of nature. These *regulae* encapsulate in his view a correct understanding of what search for laws of nature amounts to, and they will therefore be particularly appropriate in the criticism of inferior theories. This explains why Reid often comes back to the *Regulae* in his writings; more often, however, because they are needed in the criticism of theories, than because they are vehicles for positive discoveries of mental laws of nature.

It might be objected, however, that Reid in the midst of his science of the mind insists on and reports a type of mental law of nature of tremendous importance for his whole project, and that laws might in fact play an important systematic role in Reid's science of the mind. This is when Reid, in the course of his critical investigation of the theory of ideas, establishes that there is a law-like connection between certain sensations and the concepts and beliefs they evoke. Whenever we have a specific sensation, say of hardness, this immediately evokes the thought of the existence of a particular property of the body touched. The relation between the sensation of hardness and the concept and belief of hardness is, Reid claims, a law of nature. The sensation is a 'cause' and the conception and belief that arises is an 'effect'. The relation is a 'constant conjunction' and the truth of its holding is a contingent fact about the way we happen to be constructed. This is the way we happen to be "hard-wired" and it is conceivable at least that we might have been hard-wired differently, like the sensation of sweetness leading us to think of the property of the hardness of a body. It is not true then that the conception and belief of hardness is necessarily triggered by that particular sensation, since there might have been a different hard-wiring. The

24 The kind of *first philosophy* that Reid endorses, which consists in a program for establishing "first principles of common sense", should be fairly acceptable for *first philosophy* critic Quine, insofar as Reid's search for first principles of common sense is explicitly guided by considerations of a wide set of sciences such as logic, epistemology, linguistics, anthropology etc. Reid, like Quine, does not believe in an evidentially privileged point of view from which first philosophy can be established. See *Intellectual Powers*, pp. 459ff.

relation is a contingent constant conjunction and bears nothing of a necessary connection beyond that.

Human nature, then, consists of a lot of hard-wiring. The question is: Is it a primary aim for Reid to map the hard-wiring of our constitution, to describe law-like connections between particular sensations and corresponding conceptions of and beliefs about properties of bodies? Such mapping would indeed encourage the perspective of sorting out the relations in between these laws and to produce a theory of the mind the backbone of which would be the interrelations between laws of different generality. The answer is, I think, that Reid certainly would welcome any useful knowledge about this kind of hard-wiring, if it can be had. Here and there he points out law-like relations he thinks fundamental and worth noting in the course of his investigations. Sometimes it is because the issue at hand concerns psychophysical aspects of perception (such as the study of squinting, the parallel motion of the eyes, and double-seeing in chapter VI of the *Inquiry*). But often enough his primary concern is different. When Reid draws our attention to the law-like relation between the sensation of hardness and the correspondent conception hardness as a property of material bodies his interest resides wholly in the nature of the relation, which is a philosophical issue. This is because he believes that modern philosophers generally have misunderstood the nature of the connection, believing for instance that our conceptions are produced from, or explained by, or copied from, our sensory experiences. In addition, some theorists (Descartes, Hartley, Priestley) have, without solid evidence, put forward hypotheses to explain the efficient causal processes that leads us to form conceptions and beliefs about the properties of bodies. Reid's concern is about what sort of relation this is. He is not the least interested in making his discovery the starting point of an empirical research programme for establishing similar hard-wired connections of human nature. The empirical question about what connections of the sort there would be to map is not really on the table at all.

Although laws, as we have seen, do not serve as the backbone of Reid's science of the mind, he still reckoned mental phenomena to be largely speaking natural phenomena. That is, mental phenomena are part of created nature and should be studied as such according to the established methods of empirical investigation. Mental phenomena (or some subset of them) are therefore at least potentially susceptible to be explained or described in terms of laws of nature. There is, however, a more principled restriction to the usefulness of laws in science of the mind which has to do with Reid's

conviction that human beings have a capacity of freely exerting active power. In the two last sections of this paper I will shortly comment on this restriction, in the next section insofar as Reid discusses this himself, and in the last section I will suggest a specific reason, which Reid does not air himself explicitly, why his study of the human mind would never be much concerned with laws of nature at all.

4. Reid's later reconsideration of the relevance of the *Regulae* to the science of the mind

It is worth noting first that Reid never thought it necessary in his published writings to guard against his readers making the mistake of thinking that he was in the pursuit of trying to reduce all mental phenomena to law-like connections, the way a stout materialist or a necessitarian would do. It was only when he was prompted by Priestley's materialist and necessitarian conception of human nature, which was supported by what Reid took to be a serious misinterpretation of the *Regulae Philosophandi*, that Reid had to reconsider the relation between the mere search for laws of nature and the study of mind.²⁵ As we have already seen, he reaffirmed that mental phenomena are natural phenomena, adding, as we also saw, that "as far as these phaenomena can, by just induction, be reduced to general laws, such laws may properly be called laws of Nature". Clearly then, there is a recognition here that some mental phenomena is not susceptible to such treatment, and what Reid specifically had in mind was volition. He had to reconsider the range of the *Regulae* and the subject matter of the science of the mind:

Whether Sir Isaac Newton, in his rules of Philosophizing, had in his view the natural phaenomena of the mind, or not, does not appear; but, it is evident, that the reason of them extends to these, as well as to the phaenomena of the material system; and therefore they may be applied to both with equal propriety, and ought to be adhered to with equal strictness. But it is to be observed, that the voluntary actions of men can in no case be called natural phaenomena, or be considered as

25 Reid's writings on Priestley is found in some manuscripts titled "Some Observations on the Modern System of Materialism" which are now to be found in *Thomas Reid on the Animate Creation*, ed. Paul Wood, Edinburgh University Press: Edinburgh, 1995, pp. 173ff.

regulated by the physical laws of Nature. Our voluntary actions are subjected to moral, but not physical laws.²⁶

And a little later he writes,

There are many important branches of human knowledge, to which Sir Isaac Newton's rules of Philosophizing have no relation, and to which they can with no propriety be applied. Such are Morals, Jurisprudence, Natural Theology, and the abstract Sciences of Mathematics and Metaphysics; because in none of those Sciences do we investigate the physical laws of Nature. There is therefore no reason to regret that these branches of knowledge have been pursued without regard to them.²⁷

Apparently then, the restriction imposed on the applicability of the *Regulae* on mental phenomena implies that sometimes they apply, sometimes they don't, depending on the specific issue at hand. Should we conclude that the eclectic field of study called the science of the human mind is such that whenever there are some mental phenomena that can be traced to a general law-like connection the *Regulae* will be relevant, while in other parts they will not. Does the science of the mind has distinguishable parts some of which are nomological in character, and some of which are not? Indeed, does the mind itself has distinguishable parts, some of which run regularly according to laws and others in which human volition breaks in? The only sure thing to say so far is that laws of nature has a considerably smaller role to play in the science of the mind compared with the role played in such sciences in which laws serve as the backbone of a theoretical structure.²⁸

26 Thomas Reid on the Animate Creation, p. 185.

27 Thomas Reid on the Animate Creation, p. 185f.

28 I disagree therefore with Wolterstorff (2001) and with Copenhaver (2006). They take for granted that laws of nature is the central piece of Reid's science of the mind. And they differ in their interpretations of what extent we are able to penetrate into the constitution of the mind understood as a basic set of laws. I agree with Rebecca Copenhaver that laws of nature in the science of the mind are no different from laws in physics and that, therefore, there is no reason to think that there are any particular 'mysteries' involved in our comprehension of laws of the mind, such as has been suggested by Nicholas Wolterstorff. The methodology and epistemology of nomological investigations are exactly the same. I suppose that I differ from Copenhaver in thinking that such investigations has a small part to play in Reid's science of the mind. See Rebecca Copenhaver, "Is Reid a mystertian?", in *Journal of the History of Philosophy*, vol. 44,

5. The active mind: attention and the rearing of faculties

That a science of the mind is no easy thing to accomplish successfully everyone can agree on. But where in lies the chief difficulty? According to Hume the major difficulty – to only one which he cares to mention in the *introduction* to the *Treatise* – is that the experiments that the researcher wishes to conduct on his own mind will be disturbed by the presence of the mind of the experimentalist himself.²⁹ Quite undisturbed by this concern Hume finds it easy enough to distinguish the basic furniture of the mind: On the first page he establishes that they are all perceptions of the mind and that they are all either impressions or ideas. It takes Hume another two or three pages to find out his first law, the copy principle, and yet another page or two to come up with three principles of association that will do most of the explanatory work throughout the *Treatise*. Reid in contrast discusses methodological issues in all his three books. If Reid, as we saw earlier, had complained that philosophers had pictured mental phenomena to be as conceptually simple as matter in motion governed by laws of nature, his description of whatever he thinks encounters anyone who wishes to explore the human mind shows a more complicated subject matter to work on. Mental operations, he writes in the *Inquiry*...

...are so mixed, compounded, and decomposed, by habits, associations, and abstractions, that it is hard to know what they were originally.³⁰

it is extremely difficult for the mind to return upon its own footsteps, and trace back those operations which have employed it since it first began to think and act.³¹

Now, this might of course merely be the bad luck of the scientist of the mind compared with the more lucky astronomer or zoologist, whose objects of study are easily identifiable; no reason to reject the grand idea of a fully nomological account of mental phenomena (with due considerations, of

no. 3 (2006), 449-466, and, Nicholas Wolterstorff, *Thomas Reid and the story of epistemology*, Cambridge university press: Cambridge, 2001.

29 David Hume, *A Treatise of Human Nature*, bk. 1, introduction, p. 6.

30 *Inquiry*, p. 14.

31 *Inquiry*, p. 15.

course, made for the irregularities of the liberty of the will). I hope to indicate in this last section that this is not just a practical complication, like an entangled yarn that just happens to be somewhat hard to disentangle. The crux of the matter is that there is a particular entanglement that creeps in almost everywhere in our mental operations, namely, our active engagement in these operations; they are not events that merely happen to us, instead, we engage in them. A stark contrast can be made here between Hume's model of the mind and Reid's. In Hume's model what the model describes is what happens to a subject under certain circumstances, and the explanations sought for are laws of mental phenomena. Hume minimizes the role of the agent in accounting for the mental phenomena. Reid shares the scientific aim of exploring the basic laws, principles and dependencies which accurately describe and explain mental phenomena. In addition, however, he must also take into account the fact that we participate in our mental life as agents. Indeed, because his scientific aim is to describe the human mind accurately, he cannot leave out this feature of our mental life. Let's see how this works by way of two examples.

5.1 'Active' and 'Intellectual' powers – the case of attention

In the introduction to the *Essays on the Active Powers of the Human Mind* Reid writes that “it is evidently the intention of our Maker, that man should be an active and not merely a speculative being” and that we for this reason have been endowed with active power.

Our business is to manage these powers, by proposing to ourselves the best ends, planning the most proper systems of conduct that is in our power, and executing it with industry and zeal. This is true wisdom; this is the very intention of our being.³²

There is nothing to indicate, as far as I have seen, that what Reid has in mind here is only our visible, physical and publicly accessible actions in society, as opposed to a purely speculative philosophical being. Indeed, it turns out that the very distinction that separates Reid's two major *Essays* – the *Intellectual* and the *Active* powers of the mind – is more conventional than real:

The faculties of the understanding and will are easily distinguished in thought, but very rarely, if ever, disjoined in operation. In most,

32 *Active Powers*, p. 5.

perhaps all the operations of mind for which we have names in language, both faculties are employed, and we are both intellective and active.³³

Here, I suggest, is the crux of the matter. There is no way the scientist of the mind can pretend we are not there ourselves as agents among the mental phenomena to be studied. Hume's worries about the experimenter influencing the experiment turns out to be, from a Reidian point of view, wholly misconceived. So called mental phenomena are to a too great extent a matter of us performing mental actions.

Reid goes on to single out *attention*, *deliberation*, and what he calls a *fixed purpose or resolution* as operations which are commonly classed under the intellect but which, in his view, involve the will and therefore might as well be classed under our active powers.³⁴ The case of *attention* is of particular interest because Reid highlights the importance of this ability for all thinking and acting to the extent of claiming that "a great part of wisdom and virtue consists in giving a proper direction to our attention."³⁵ A closer look on this aspect of Reid's philosophy of mind reveals that just to think about something and to think about something as something requires the exercise of attention.

... so great is the effect of attention, that, without it, it is impossible to acquire or retain a distinct notion of any object of thought.³⁶

This has far-reaching consequences for the very character of Reid's science of the mind. According to Reid, to perceive, to remember and to conceive is to be mentally directed to some item which is distinct from the operation at

33 *Active Powers*, p. 59f.

34 Reid opposes the view of *Deliberation* according to which it is a quasi-mechanical process where different motives struggle and the strongest prevails. What decides a conflict in between motives is a judgment made by a rational agent that weighs the importance of different principles and motives. See *Active Powers*, p. 216f.

A *fixed purpose or resolution with regard to our future conduct* is, for instance, when you decide to always be a good person, or when you decide to go to London next winter. Such resolutions are exercises of will and they last over long time. Both deliberation and resolutions can clearly have mental actions as their objects, as for instance when weighing evidence, and when resolving always to go by clear and distinct ideas in scientific matters.

35 *Active Powers*, p. 63.

36 *Active Powers*, p. 60.

hand, such as a material object, a past event, or a conception. In doing so we are *ipso facto* attending to the object at hand, and to do so successfully we need to exert our will. Because acts of attention pervade our mental life the subject matter of Reid's science of the mind is quite different from Hume's nomological approach.

Our next example concerns cases in which we are engaged with trying to improve our inborn mental capacities.

5.2 Rearing our faculties

In the *Inquiry* Reid writes:

Of the various powers and faculties we possess, there are some which nature seems both to have planted and reared, so as to have left nothing to human industry. Such are the powers which we have in common with the brutes, and which are necessary to the preservation of the individual, or the continuance of the kind. There are other powers, of which nature hath only planted the seeds in our minds, but hath left the rearing of them to human culture. It is by the proper culture of these, that we are capable of all those improvements in intellectuals, in taste, and in morals, which exalt and dignify human nature; while, on the other hand, the neglect or perversion of them makes its degeneracy and corruption.³⁷

Reid uses this observation to insist on the difficulties involved in the study of the human mind. It gives expression at the same time of a view of the human mind as something intrinsically active. What we are and become depend on what we do with our faculties, our basic mental equipment. The ability to rear whatever we got from start does not mean that we can change our constitution or our nature, but it means that the basic powers of our constitution is there for us to be used the best we can, and this includes being developed and cultivated. Reid uses an agricultural metaphor.

The earth is left by nature in such a state as to require cultivation for the accommodation of man. [...] By clearing, tilling and manuring the ground, by planting and sowing, by building cities and harbours, draining marshes and lakes, making rivers navigable, and joining them by canals, by manufacturing the rude materials which the earth, duly

³⁷ *Inquiry*, p. 13.

cultivated, produces in abundance, by the mutual exchange of commodities and of labour, he may make the barren wilderness the habitation of rich and populous states.³⁸

It quickly turns out, however, that we receive our higher mental faculties pretty much in a similar “rude and barren” state.

His animal faculties are sufficient for the preservation of the species; they grow up of themselves, like the trees of the forest, which require only the force of nature and the influence of Heaven. His rational and moral faculties, like the earth itself, are rude and barren by nature, but capable of a high degree of culture; and this culture he must receive from parents, from instructors, from those with whom he lives in society, joined with his own industry.³⁹

Now, as much as it would be strange to describe the human species without any mention of our capacity to work on and change our physical environments and conditions of life, it would be a serious omission in a science dealing with our mental equipment to leave out our ability to relate to and developing this equipment. Indeed, to make the best of our inborn “rude and barren” capacities is our duty and is, as we saw before, what Reid calls true wisdom.

All things considered, mental operations are not, on Reid's view, events that merely happens to us. They are also events in which we engage actively. This explains why Reid's science of the mind is not a characteristically nomological science, and therefore also, on account of this and other considerations we have made, not particularly “Newtonian”.

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38 *Active Powers*, p. 43.

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