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Charles T. Wolfe · Ofer Gal  
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The Body as Object and  
Instrument of Knowledge

Embodied Empiricism in Early  
Modern Science

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# Carelessness and Inattention: Mind-Wandering and the Physiology of Fantasy from Locke to Hume

John Sutton

**Abstract** Associated ideas, complained Locke, follow one another "without any care or attention." In a brilliant inversion of Locke's nervous worries about the perils of misassociation, Hume resolved the sceptical despair brought on by philosophical reasoning only by returning to mindlessness: "carelessness and inattention alone can afford us any remedy. For this reason I rely entirely on them" (*Treatise*, 1.4.2). How did British natural and moral philosophers in the early eighteenth century think about what happens when the mind is elsewhere? How did they theorize the processes by which thoughts, fancies, memories, daydreams, and feelings come to mind without prompting either by reason or reality, by the will or by the world? Examining works by Mead, Harris, Gibbs, and Branch, I detail the role of bodily fluids and nervous spirits in "conveying the mischief" by which imagination tends to ruffle our calm. Minds are often surprised by their own habits, and various forms of regimen were recommended in these works of medical psychology and moral physiology to 'pinion' the imagination and still the roving thoughts. I anchor these local discussions within a broader enquiry into mind-wandering and 'stimulus-independent thought', and sketch a rich neurophilosophical background to Hume's views on the bodily bases of custom and habit.

## 1 The Restless Mind<sup>1</sup>

Like us, early modern philosophers, both natural and moral, didn't always understand the springs of their own actions. They didn't want to feel everything they felt, and couldn't trace the sources of all their thoughts and imaginings. Events from

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<sup>1</sup>The original research on which this paper is based was conducted at the Wellcome Institute way back in February 1999, and I presented initial talks in 1999 to audiences in Sydney and Edinburgh, and at the annual conference of the International Society for the History of the Neurosciences in Lausanne. My work then on early eighteenth-century English medico-psychological writers like J. Sutton

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past experience come to mind again unwilling: abstract thought is interrupted by fantastical images, like the “winged horses, fiery dragons, and monstrous giants” by which Hume exemplified “the liberty of the imagination.”<sup>2</sup> Then, as now, a failure to keep a train of thought on track could be blamed for both personal and social ills, for wasted lives and erratic policies. The ongoing struggle to distinguish the deliverances of reason from what Hume called ‘the loose and indolent reveries of a castle-builder’<sup>3</sup> thus required scrutiny of daydream and fancy as much as belief and knowledge.<sup>4</sup> The mind’s tendencies to float and to roam were of great interest to early modern philosophers as well as to others concerned with medicine, mental health, morals, education, and taste. This paper sketches one local line of thinking and theorizing about ‘mind-wandering’ and its bodily causes in British philosophy over the first decades of the eighteenth century, as a small exemplar of a form of cognitive history intended to illuminate independent historical and contemporary concerns about our understanding of mental life. The dual aim is to see problems in our historical material that we might otherwise miss, and to use history to explore phenomena more or less marginalized by modern psychology.<sup>5</sup>

Historians of philosophy often interpret early modern thinkers, in differing traditions and for differing reasons, as tempted by the view that mind requires awareness. Notable exceptions may be acknowledged: this is one reason Hume’s claim that experience may produce belief and judgement “by a secret operation, and without once being thought of” was dramatic and puzzling.<sup>6</sup> But awareness and control together are taken to have formed a standing ideal or paradigm for mental life: the ordered mind, at least, would exhibit complete and undivided

Mead, Harris, Gibbs, and Branch was intended to pick up loose threads from my book *Philosophy and Memory Traces* (Sutton 1998), uneasy with my own camping at historical thinkers’ resistance to confusion, their struggles with internal division, their desperate attempts to clean out the mind. The Embodied Empiricism project affords a new context for a more constructive line through this material and I’m most grateful to Charles Wolfe for the encouragement to do so and for his general support. My thanks for help in that earlier phase to Catalin Avramescu, Stephen Gaultroger, J.S. Jacyna, Peter Jones, Janie Kasler, Doris McIlwain, Gail Kern Paster, Udo Thiel, and Richard Yeo. For thinking through issues about ‘mindlessness’ and applying intelligence to the reflexes with me in other contexts more recently, I’m grateful to Wayne Christensen, Ed Cooke, Andrew Geeves, Doris McIlwain, Meta Regis, and Evelyn Tribble. Lisa Shapiro’s excellent commentary at the Embodied Empiricism meeting in February 2009 was particularly helpful, as were questions from Dominic Murphy and Richard Yeo. This is also an opportunity to acknowledge the enormous influence of the boundary-spanning work of G.S. Rousseau on imagination and ‘discourses of the nerve’. If I engage explicitly with his writings less here than on some previous occasions, it’s only because this is, in a sense, so thoroughly his topic, and I can only point readers to the essays now helpfully collected in Rousseau 2004, and especially to his remarkable recent essay on eighteenth-century ‘brainomania’ (Rousseau 2008).

<sup>2</sup> Hume 1739/1978, I.1.3, at p. 8.

<sup>3</sup> Hume 1739/1978, 624.

<sup>4</sup> See also Terney-Hynes 2007 on the ‘castle-builder’.

<sup>5</sup> On cognitive history compare Richardson 2001; Lloyd 2007; Small 2008; Sutton 2000, 2002, 2007a; Tribble 2005. We hope that the risks taken in work like this of catching ‘the virus of the precursor’ are outweighed by the benefits.

<sup>6</sup> 1739/1978, 104; Traiger 1994.

mindfulness, and be regulated by the agent’s will in harmony with reason. The prevalence of these default assumptions created trouble, firstly, for philosophers and moralists who wanted to construe the old conflict between reason and the passions as occurring *within* the mind, rather than between the self and entirely alien forces.<sup>7</sup> Further, it was hard to find theoretical room for the occurrence of any ideas, memories, decisions, or feelings with no or diminished awareness (“without once being thought of”), or in the absence of voluntary regulation and direction. Ordinary mind-wandering, daydreaming, and fancy remained mysterious and poorly-theorized: it was difficult to identify the distinct dimensions on which these nebulous psychological phenomena need to be studied. Yet we can still identify many distinctive historical attitudes, in both theory and practice, to the relations – conflictual or interactive, in competition or in coordination – between what we might think of as the attentive mind and the floating mind. Perhaps the dominant strains of Western moral psychology have privileged reflection and control, encouraging us to be suspicious of and to minimise the influence of unguided thinking; but there have also often been alternative views, both mystical and naturalistic, which value both mind-wandering and habitual flow.

In the twentieth century’s quite different intellectual context, brave alliances between psychodynamic and cognitive approaches to the unconscious were needed gradually to initiate the scientific study of unguided thought flow, zoning-out, and mind-wandering.<sup>8</sup> Anti-dualist consensus notwithstanding, executive control (over thought and action alike) is still often seen as requiring both awareness and intent: this has rightly been blamed for the prevalent psychological neglect of daydreaming and fantasy.<sup>9</sup> Such processes are often precisely driven by the agent’s current concerns, by ongoing or unfinished goals<sup>10</sup>, yet are initiated and maintained without explicit intention and (sometimes) without ongoing awareness. So official theories which yoked agency to intention or awareness rendered such phenomena barely visible.

Again, of course, there are strong counter-movements, reaching well beyond psychoanalytic theory, which do encourage the incorporation of the tacit realm *within* our psychology. But, despite helpfully attending to inattention, in some cases these alternative lines of thought reinforce key dichotomies from their rationalist targets. Philosophers of various persuasions argue against over-reliance (in theory and in practice) on attention and top-down control, suggesting that “mindfulness is the enemy of embodied coping,”<sup>11</sup> or that a wandering mind “is conducive to effective action because of its responsiveness to the objective demands of one’s materials and circumstances.”<sup>12</sup> While both philosophers and cognitive psychologists underline the pervasiveness of automaticity in everyday life,<sup>13</sup> and the ironic or self-refuting

<sup>7</sup> James 1999; Schmitter 2006.

<sup>8</sup> Singer 1966; Antrobus et al 1970; Bertsen 2009.

<sup>9</sup> Smallwood and Schooler 2006; Schnupak and Rosenthal 2009.

<sup>10</sup> Klinger 2008.

<sup>11</sup> Dreyfus 2007, 353.

<sup>12</sup> Velleman 2007, 184.

<sup>13</sup> Gendler 2008; Bargh 1997.

tendencies of attempts at mental control.<sup>14</sup> But even when nonconscious thoughts and feelings are no longer seen as entirely outside the cognitive realm, they are too often still construed, as in early modern discussions, as lacking in both knowledge and control. These twin pillars of the mind were and are often yoked together: then described as reason and will, now as (say) declarative knowledge and executive control. Habitual or grooved thoughts and actions operate in the main, the idea goes, without access to explicit background beliefs or factual memory, and often without in turn leaving any explicit trace in memory; and they characteristically operate 'automatically', without the need for deliberate initiation or conscious online guidance. These views are buttressed by some neuroscientific work, which sees sequence memory as crystallized and inflexible once learned, with the components of kinaesthetic sequences chunked as single entities in memory, hard to uncouple and selective redeploy, and habit memory entirely "controlled by antecedent stimuli," evacuated of awareness so that we act on its basis "without anticipating the consequences."<sup>15</sup>

Studying the diverse phenomena of mind-wandering – of carelessness and inattention – can, I suggest, help us undermine these dichotomies between goal-directed and automatic action, and between controlled and habitual thinking. Between the basic reflex and fully reflective, deliberate, self-aware action lie extraordinarily diverse arrays of distinct psychological phenomena, which vary on many different dimensions.<sup>16</sup> Neither awareness nor control, neither knowledge nor intention, neither reason nor will, need be seen in an all-or-nothing manner.

This historical study is thus intended to complement a more promising recent wave of empirical research on "the restless mind" and on daydreaming, unguided thought flow, zoning out, fantasy and mind-wandering, phenomena which are "ubiquitous in mental life"<sup>17</sup> and of considerable theoretical, personal, and moral interest. How often do we fail to notice our minds wandering? When and how do we sometimes maintain performance on mundane tasks, even quite tricky ones like driving, when our minds are off and away? How do we catch ourselves in the act of fantasy, and what changes when we do? Can unguided imaginative wandering help in solving problems? What happens when we entrust key actions or decisions to such mere habits of mind? Two questions about mind-wandering above all interest us, as they did the early modern writers I discuss here, with their different frameworks and terminologies and explanatory options. What causes such unguided shifts in the flow or thread or sequence of thoughts and feelings, which seem to be internally-generated yet apparently involuntary? And, secondly, how (both in general and in specific instances) can we better direct, fully inhabit, or align ourselves with our roaming minds?

At least four distinct dimensions are at issue in this recent literature:<sup>18</sup> feelings and thoughts may be more or less fanciful and wishful (as opposed to realistic), more or less cut off from the current environment in forms of 'task-unrelated' and 'stimulus-independent' thought,<sup>19</sup> unintended or spontaneous (rather than deliberate) in their initiation and direction, and either accessible in awareness or not (I can be surprised to find that I've been thinking about something else for some time, while on other occasions I'm perfectly well aware of my ongoing meandering stream of thought).

These topics might seem remote from the official concerns of a historical investigation into a tradition of 'embodied empiricism', concerned as it is with the life sciences and medicine, with anatomy, fevers, and hysteria. But the kind of mind in question here, in early eighteenth-century phenomenological and psychosomatic inquiries into wandering thoughts and stray feelings, is of course entirely different from the a-historical, disembodied, isolated mind sometimes said to have been set at the heart of an official theory called 'empiricism'. Most generally, the writers I'll discuss, between Locke and Hume, are always treating the dynamics of body and mind together: even if they do not assume the psychophysical identities of earlier humoral materialisms, they still illustrate, worry at, and offer prescriptions to work with the intimately interactive relations of nerves and thoughts, passions and pores. More specifically, although these early eighteenth-century texts are mostly under the influence of what historians label 'atomism': they do not exhibit some of its textbook characteristics. The body-machine is no more a rigid, inflexible clock, always responding in the same way to the same stimulus, than it was for Descartes.<sup>20</sup> Whether the activity was attributed more to the body's liquors and fluids and juices, or (with the advance of solidism) to the elastic and restorative powers of the fibres and tubes and pipes through which such spirits flowed, physiological processes were seen as exhibiting their own dynamics, both intrinsic and involuntary.<sup>21</sup> These inner elasticities and vibrations could be precisely the source of undirected psychological activity: if either medicine or philosophy was ever successfully to calm the mind or society, then the task of psychosomatic regimen was to improve the bodily conditions for their optimal exercise.<sup>22</sup>

<sup>14</sup> Smallwood and Schooler 2006; Mason et al 2007; Klingner 2008; Berntsen 2009; Schupak and Rosenthal 2009.

<sup>15</sup> As we'll see, early modern thinkers treated stimulus-independent forms of mind-wandering alongside the different cases in which attention is easily captured by current stimuli.

<sup>16</sup> English versions of 'atomism' are now often seen by revisionary historians as more flexible, biologically-oriented, and contextually anchored than on earlier interpretations (Ishizuka 2006). Yet the contrast is still often drawn with a rigid Cartesian model in which Descartes' ideas about the complexity and flexibility of 'automatic' processes, and about our open organic interactions with the environment, see Sutton 1998, chapter 3; 2000.

<sup>17</sup> Ishizuka, 2006.

<sup>18</sup> Cunningham 1990; Sutton 1998, chapters 2, 5, 7, 9.

<sup>14</sup> Wegner 1997.

<sup>15</sup> Graybiel 1998; Ennen 2003; Yin and Knowlton 2006.

<sup>16</sup> Lambie and Marcel 2002; Sutton 2007b.

<sup>17</sup> Smallwood and Schooler 2006, 946.

## 2 Carelessness and In-Attention

We start with an under-noticed aspect of the chapter on association which Locke added to the 4<sup>th</sup> edition of his *Essay Concerning Human Understanding* in 1700. The mind makes strong combinations of ideas in itself, says Locke, “either voluntarily or by chance, and hence it comes in different Men to be very different.”<sup>22</sup> Such individual differences arise, in other words, because while some couplings of ideas are due to reflection, others are “wholly owing to Chance or Custom.”<sup>24</sup> This explains both particular errors, and the more general “degree of madness” in most of us.<sup>25</sup> Ideas which ought to be “loose and independent one of another” connect wrongly, under the rowdy influences of “Education, Custom, and the constant din of their Party;” and so “set us AWAY in our Actions, as well Moral as Natural.”<sup>26</sup> These unfortunate outcomes occur even “in very sober and rational Minds,” says Locke in striking terms, just because ideas once associated will “follow one another ... without any care or attention.”<sup>27</sup>

In this scheme, then, Locke links volition and reflection with care and attention as labels for the *appropriate* forms of internal guidance of our sequences of ideas, as the opposite of missassociation. This concept of ‘attention’ was relatively novel. In seventeenth-century English, you are attending when you notice, take heed of, or direct the mind towards objects or events in the external world. But in Locke, attention operates (or fails to) on the *inner* world: “when the *Ideas* that offer themselves ... are taken notice of; and, as it were, registered in the Memory, it is *Attention*.”<sup>28</sup>

Note also the physiological grounding of Locke’s detailed picture of the processes of remembering and associating ideas, a far cry from his official neutrality about the physical operation of the mind.<sup>29</sup> In the absence of ‘care and attention’, the grooved sequences of associated ideas are based in (or even just are) grooved sequences of patterned motions of nervous fluids:

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 Motions 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.<sup>30</sup>

<sup>22</sup>Locke 1690/1975, *Essay* 2.33.6.

<sup>24</sup>Locke 1690/1975, 2.33.5.

<sup>25</sup>Locke 1690/1975, 2.33.4.

<sup>26</sup>Locke 1690/1975, 2.33.9, 18.

<sup>27</sup>Locke 1690/1975, 2.33.3, 6.

<sup>28</sup>Locke 1690/1975, 2.19.1. The OED ambitiously characterizes this passage as the first instance of a distinct and metaphorical use of ‘attention’.

<sup>29</sup>Locke 1690/1975, 1.1.2; Sutton 1998, chapters 7 and 9.

<sup>30</sup>Locke 1690/1975 2.33.6. This is the passage brilliantly echoed by Sterne in the first chapter of *The Life and Opinions of Tristram Shandy* 1759/1983, 5; see Myer 1984, Sutton 1998, 207–213.

Such psychophysical pairings – in remembering, imagining, and thinking alike – are symptoms of our deepest cognitive failings, eliciting Locke’s sad realism about the cognitive effects of the Fall. As angels need no memory, they are free of the need to encode and retrieve. For us, in contrast, memory often goes astray either through “the temper of the Body” as “the Imagery moulders away”<sup>31</sup>, or because of failures of attention: we don’t register things, notes Locke, which “have been little taken notice of; the Mind, either heedless, as in Children, or otherwise employ’d, as in Men.”<sup>32</sup>

The concern here is with what happens when the mind’s away, when – through incapacity or overload – ideas turn over without control or even care. Descartes had argued that although animals do see and feel, they “do so not as we do when we are aware that we see, but only as we do when our minds are elsewhere.”<sup>33</sup> This is just what’s happening, for Locke, in missassociation, and why it is dangerous: without heed or care, when ‘otherwise employ’d’ or else driven by custom, history, and ingrained embodied tendencies, the mind is barely present at all, its influence on our actions severely eroded. It’s just this nervous worry that Hume echoes and brilliantly inverts in his *Treatise of Human Nature*.

Through book 1, Hume elicits our sceptical doubts about both reason and the senses. He suggests that such doubt “can never be radically cur’d, but must return upon us every moment, however we may chace it away, and sometimes may seem entirely free from it.”<sup>34</sup> It is not only in the notorious conclusion to Book 1 that Hume evokes the ‘forelorn’ and ‘disconsolate’ mood brought on by intense reflections.<sup>35</sup> He was not many years off an unsuccessful course of “Anti-hysterical Pills”, described in a 1734 letter which compared Hume’s history of nervous disorders, due to his “profound reflections” with their “warmth or Enthusiasm;” to religious fanatics and “French Mysticks” whose “rapturous Admirations might discompose the Fabric of the Nerves & Brain.”<sup>36</sup> But although neither drugs nor backgammon can enhance the overzealous philosopher’s mood, there is an unexpected solution to the perils of thinking: “Carelessness and in-attention alone can afford us any remedy. For this reason I rely entirely on them.”<sup>37</sup> By allowing heedlessness, encouraging the mind to be elsewhere or otherwise employed, Hume finds temporary respite from reflection. In thus embracing carelessness and

<sup>31</sup>Locke 1690/1975, 2.10.4–5.

<sup>32</sup>Locke 1690/1975, 2.10.4.

<sup>33</sup>Descartes to Fromondus, in Descartes 1991, 61–2; and see Gaukroger 1995, 287–8.

<sup>34</sup>Hume 1739/1978, 1.4.2, 218.

<sup>35</sup>Hume 1739/1978, 1.4.7, 264.

<sup>36</sup>Hume 1734/1993, 349. This language is echoed in the *Treatise*: Hume complains that metaphysical reasonings have “treated my brain” (1.4.7, 266). I agree with Marina Frasca-Spada (2003) that much of the terminology which Hume applies to ideas in the *Treatise* has been transformed with little alteration from a standard physiological idiom: ideas “flow in upon the mind” in a forcible or lively manner, for example, while others are “faint and languid” (Hume 1739/1978, 9), while the vividness of certain conceptions “diffuses itself ... and is convey’d, as by so many pipes or canals” (*ibid.*, 122; Frasca-Spada 2003).

<sup>37</sup>Hume 1739/1978, 1.4.2, 218.

inattention, Hume recommends trust in both instinct and experience, accepting the effects of education and custom, everything which is "independent of all the laboured deductions of the understanding."<sup>38</sup>

The verbal echo is a neat new way to catch the difference between Locke's restricted use of association to explain error, and Hume's radical extension of the principles of association. Hume exhibits and recommends trust in the tacit realm, in the deliverances of custom and habit, in light of his retreat from care and attention. But there's also a richer local history to spy into here, a history of mind-wandering, medicine, and moral physiology, of habit and body and brain, of embodied empiricism between Locke and Hume. Through the early years of the eighteenth century, how did other British natural and moral philosophers think of these processes by which thoughts, fancies, memories, daydreams, and feelings come to mind without being prompted either by the world or by the will, by reason or by reality? Without denying the novelty of Hume's case that reason itself is, or is the product of, natural habitual and affective processes, we can identify a discourse that was more broadly shared by natural and moral philosophers in the years before the *Treatise*. The consensus lay in ways of talking about, and in many cases theorizing, the many ways in which the causes, contents, and course of mental life are out of our control: many writers sought a way to think about a multiplicity of causes of thought and feeling, among which reason and will would have to struggle for influence. For the odd historical reason that both Locke and Hume sought to distance their epistemological work from the contemporary natural-philosophical and medical frameworks with which they were familiar, it's too easy for us to lose the sense that they were fully aware of the embodied roots of mind-wandering.<sup>39</sup>

### 3 Pinnining the Imagination

The late twentieth-century study of mind-wandering and daydreaming arose in part from work on (night-time) dreaming, with similar ambitions to unify depth-psychological and cognitive perspectives,<sup>40</sup> and it continues alongside the

<sup>38</sup> Hume 1975, 55. For Bertrand Russell, Hume's recommendation of carelessness and inattention was not only the ultimate in self-refutation for a philosopher in particular, but also quite generally "the complete bankruptcy of reason" (Russell 1997, 239). Our default interpretive stance now is more naturalistic and affective, and thus more sympathetic.

<sup>39</sup> So I agree with James A. Harris's case, in an excellent recent paper, that the first two books of Hume's *Treatise* in particular should be read against the background of many early eighteenth-century books "devoted to showing how philosophy could help with living a happier and more virtuous life, by showing the way to better regulation of the passions," most of which books are "completely unread today" (Harris 2009). But Harris's focus is on straightforward moral philosophy as the context, rather than on the medical-psychological and moral-physiological literature from which I sketch just a few themes in this paper. In these latter fields, there were signs prior to Hume of his idea, nicely described by Harris, that the old contest between reason and desire would be better seen as "the interaction of a panoply of feelings," to be registered and explored in their mysterious workings by the analyst of human nature. Frasca-Spada (2003) rightly notes that Hume's few references to common physiological theory are "impeccably well informed."

<sup>40</sup> Antrobus et al. 1970.

equally challenging and speculative multidisciplinary sciences of dreams.<sup>41</sup> One highly contested ongoing debate concerns just how bizarre and fantastical dreams are. The dominant view is that dream narratives are intrinsically implausible, utterly unrealistic delusions or psychoses resulting from "a mental readout of the chaotic brainstem activity of REM sleep."<sup>42</sup> But among a number of challenges to this mainstream theory are results from systematic content analyses of dreams, which compare them not to objective real-life events or actions but to waking *mental* life: G. William Domhoff suggests, for example, that "there is far more discontinuity, drift, and inattention in waking thought than is implied by the claim that changes in dream scenes or settings are inherently bizarre."<sup>43</sup> Again, we can use this contemporary debate as a historical clue: in asking what pictures of the inattentive waking mind were available to our early eighteenth-century thinkers, we can use their views about the similarities and differences between waking and dreaming thoughts and feelings.

This quest takes us to an appropriately obscure exemplar, after our two canonical texts on carelessness and inattention. Thomas Branch, a writer of whom we know next to nothing, responded eloquently in his *Thoughts on Dreaming* (1738) to views defended in Andrew Baxter's 1733 *Enquiry into the Nature of the Human Soul*.<sup>44</sup> Baxter had argued that dreams derive from supernatural agents: Branch responds that what might appear to be supernatural is in fact inside us.<sup>45</sup> In doing so, he expresses forcefully the view that ordinary waking mental life is more confused than regular, anchored more in a fantastical than an objective realm.

<sup>41</sup> Sutton 2009.

<sup>42</sup> Hobson & Stickgold 1994, 10–11.

<sup>43</sup> Domhoff 2003, 153; see also Flanagan 2000, 58–61.

<sup>44</sup> Branch also published a compendium of legal sayings in 1753, and may have been alive still in 1769. A second edition of Baxter's *Enquiry* had appeared in 1737, the year before Branch's book. For background on the Baxter-Branch debate see Dacome 2004. Dacome's overarching case is that dreams were gradually medicalized and pathologized through the eighteenth century, as moral physiologists sought to establish "a new model of the credible mind, one in which the elimination of the vagaries of the mind was to be carried out by means of body policing." Dacome 2004, 397. See Daston 1998 for a related broader narrative of the pathologizing of imagination in the Enlightenment. These early eighteenth-century texts also exemplify the spread of discussion about these further reaches of mental life well beyond philosophy, then as now. But further work is needed to piece together the impact and reception of works like these, and to understand how they related to moral, imaginative, cognitive, and social practices of the time.

<sup>45</sup> In responding to Baxter on dreaming, Branch also offers full-scale theories of perception and memory, in seeking to demonstrate just how much the soul can do without external guidance, to prove that "our Dreams may be our own" rather than implants from spiritual beings. He also offers a rich phenomenology of dreaming, raising and effectively answering sixteen objections to his core idea that dreams are just thoughts during sleep, just as he denies their supernatural origin, so he denies that they are brute biological givens, for they take considerable psychological sophistication. For this reason Branch at least does not neatly fit Dacome's account of the Enlightenment pathologizing of dreams, which I would argue also neglects the developmental-cognitive-affective accounts of memory and dreams in David Hartley's *Observations on Man* 1749; compare Sutton 1998, chapter 13. Theories of dreams were no more homogeneous and unified (from either conceptual or applied points of view) than they are now.



Baxter had argued that the bizarre content of dreams means that they cannot be accounted for by natural causes, there being insufficient material in "the Business and Thoughts of the Day" to furnish our dreams. Branch's strategy in reply is to challenge the distance between mental life in waking and dreaming. Like Domhoff in the modern debate, he asks us to consider that many daytime thoughts of internal origin, driven neither by perception of the world, nor by reason, are just as wayward.

"Consider," Branch requests, "with what great Difficulty it is that we fix it [the Mind] long, whilst awake, on one Subject; and that in Opposition to our best Endeavours." When awake, we can fixate ourselves by using external props – objects, activities, or other people – as scaffolding for our thought: in reading books, conversing, or putting our views on paper we use prostheses to support our attention. But, Branch laments, the mind is "ever and anon flying off, and will hardly be held in." So when such external supplements to thought are absent, as in sleep, "it is far from being strange, that the Mind, naturally a Wanderer, should rove at large."<sup>46</sup>

The vast and complex landscapes of our dreams are parallel to the fiery productions of imagination. Our thoughts can indeed *seem* to be of alien origin: every man each day has "Imaginary Forms brought before him, which he knows not of going in search after, and even wonders how they were introduced."<sup>47</sup> But their origin is in fact internal, produced by the compounding and mixing of ideas, the continuing business of imagination.

Branch draws a sharp distinction between voluntary invention and involuntary imagining. The soul *can* deliberately 'confine' and 'rectify' imagination for a particular purpose, or select the Forms it brings, by judgement, in an act of creation. But this is not easy, and "is certainly," admits Branch, "a work of fatigue." When, on the contrary, "we control not the imagination, but let it fly at all, and pursue its own Game, this costs us no Pains; many Persons find much more in pinnoming it."<sup>48</sup>

So in the course of arguing against the attribution of dreams to "foreign agents"<sup>49</sup> or other alien sources, Branch underlines the complexity and heterogeneity of the internal origins of our mental life. He depicts mind-wandering as our default psychological

<sup>46</sup> Branch 1738, 45–46. The idea that external artifacts play key roles in distributed cognitive systems, transforming the demands on individual psychological resources, has been widely revived recently (Hutchins 1995; Clark 1997; Sutton 2002), but of course has itself a long history (Donald 1991; Tribble 2005; Sutton 2007a). Branch links his sense that the mind is fluid, and prone to rove, to the fact that we rely on more stable external cognitive artifacts (compare Sutton 2008). His more original point is that the residual differences between waking and dreaming mental life are due not to intrinsic physiological differences, but to the absence of social and material supports in sleep. The sociologist Maurice Halbwachs (1925/1992) likewise ran an extended analogy between dreaming, with its fragmentary, torn, confused raw materials, and the mental life of a non-social individual, to demonstrate that our waking mental life is permeated by and thoroughly sculpted by our social frameworks. Branch perhaps has less faith than Halbwachs in the coherence and stability provided in waking thought by social networks.

<sup>47</sup> Branch 1738, 65.

<sup>48</sup> Branch 1738, 66. Dreaming is thus, for Branch, closer in character to imagining than to hallucinating. Compare Foulkes 1999, against Hobson's account of dreams as delusions.

<sup>49</sup> Branch 1738, 26.

mode, vigilance against which comes at some cognitive cost.<sup>50</sup> It is natural for the mind to be off on a frolic of its own. In dreaming, lacking direction from both reality and rationality, we are entirely unable to pinion the imagination. On the picture of waking life which thus emerges in parallel, executive control – the exercise of due care and attention, or effort and inhibition – is not impossible, but it is rare and costly.

#### 4 Conveying the Mischief: Body Fluids and Openness to Influence

The idea that many of the sources of disorder are within was also backed by prevailing psychophysiological theory, which I sketch here using works written early in the eighteenth century by the Newtonian Richard Mead, the encyclopedist John Harris, and the Cornish physician James Gibbs.<sup>51</sup> Although Mead, in his 1702 work *A Mechanical Account of Poisons*, officially characterises 'mathematical learning' as the distinguishing mark of a genuine physician, he offers in fact only richly verbal and irredeemably qualitative accounts of the paths of transmission within body and nervous system. Mental life is not protected or insulated from any trouble and taint in the "small Tubes all over the Body," Mead notes, for the fluid of the nerves, "Undulating continually towards the Brain, and being the chief Instrument of Motion and Action, may sometimes more immediately convey the Mischief."<sup>52</sup> In this section, I briefly rehearse the widely shared picture of the array of interconnected body fluids and vessels along which mischief of various kinds is conveyed. If pathologies could be physical and psychological at once, then philosophers, moralists, and physicians needed to map and inhabit all these richly interconnected psychosomatic phenomena.

There were increasing doubts about the ontology of certain physiological fluids, notably nervous or animal spirits, invisible and "immechanical" agents that "elude all art," as the corpuscularian physician Thomas Morgan complained.<sup>53</sup> But the

<sup>50</sup> Compare Mason et al 2007.

<sup>51</sup> On Mead and Gibbs see also Roos 2000. For Harris's *Lexicon Technicum: or, an universal English dictionary of arts and sciences* (1704) I've used the 2<sup>nd</sup> edition (2 volumes, 1708 & 1710). Harris, who had been Boyle Lecturer in 1698, and was Secretary of the Royal Society for a year in 1709–1710, wrote an array of hack works: the DNB (IX, 13–14) says that "Harris was culpably improvident, and was generally in distress," noting sadly that his 1719 history of Kent is "extremely inaccurate." Thanks to Richard Yeo for advice on Harris.

<sup>52</sup> Mead 1702, 20–21.

<sup>53</sup> Morgan 1735, 152–4. For the earlier history of debates about animal spirits, and more detailed accounts of eighteenth-century controversies about their existence, see Jacyna 1995; Clower 1998; Sutton 1998, chapters 2, 8, 10; Rousseau 2004. Among our other current writers, Gibbs nicely compares the deniers of animal spirits to atheists. Observability is entirely irrelevant: although we can't see God, we know he exists, so the fact that no cavity can be discovered in tubes of nervous fibre doesn't matter, because "if the Hole was discernable, by which the Spirits pass thro' a Fibre, it might be unfit for the Passage of so fine and rarify'd a Fluid, as the Spirits are." Gibbs 1712, 27.

solid parts could be the subject of just as many and as complex psychologized properties and variables, as the strength and vigour and harmony of the composition of the nerve had to be maintained.<sup>54</sup> And even for solidists, the condition of interconnected body fluids – blood, bile or gall, chyle, lymph, spittle, pancreatic juice, semen, as well as any “peculiar Juice in the nerves” – remained vital in distending or altering the body’s elastic fibres, so that “flow and obstruction” remained at the heart of the “economy of circular physiology.”<sup>55</sup> As Mead put it, “the Vessels are rarely obstructed, unless it be from the fault of the Liquid they carry.”<sup>56</sup> So despite differences across physiological schools, which in other contexts we’d want to investigate closely, here we can focus on the existence of unified schemes and language for thinking about mood and emotion, involuntary thoughts and memories, imaginings and fantasy, alongside disease and health. Linking the innards both to practices and exercise and regimes, and to mental life, this language of quick and nimble, fleeting spirits and fluids, which could be low, sunk, broken, oppressed, dejected, petulant, harassed, “ruffled beyond description,” hurried, or roused was used to think through psychological confusion and distress, and in explaining every disorder of the animal machine.

We can trace the possible paths of influence which transmitted mischief or disorder in its various forms. Mead’s mechanical account of poisons exemplifies the operation of external sources. After reading new Italian theories of vipers, and Tyson on the rattle-snake, Mead wanted “to hint something concerning the Nature of Fluids in General.”<sup>57</sup> The salts of venom irritate and fet the sensible membranes, creating an excess of animal juices. This ‘disjoins’ parts of the blood, altering its mixture. Poison changes mainly the arterial blood, but the fluid of the nerves may be considerably changed as well. Most generally, we can expect to explain all disorder in the body through “the doctrine of the Mixture of Heterogene Fluids, and their Separation.”<sup>58</sup> We are working with a diverse array of continuous variables. For Mead, there can be “a vast variety ... in the Fermentations even of one and the same Fluid,” because these are simply “Changes made in the Cohesion of the compounding Particles,” and are thus “capable of as many Alterations as *Morton* in his *Degrees* and *Directions* can admit of, which are really infinite.”<sup>59</sup>

<sup>54</sup> Arguing in favour of the solidists, David Baynes/Kinnear explicitly recommends metaphorising the spirits, so to talk of someone being in good spirits would mean they are in health (1738, 11–12). In fact the incorporation of the language of animal spirits into economics had already begun, foreshadowing their post-Keynesian career as markers of consumer confidence (Winstlow 1986, Akertof and Shiller 2009).

<sup>55</sup> Ishizuka 2006, 438–440. For more general interpretations of the phenomenology of humoral materialism, see for example Duden 1991 on the sensed “kinesthetic system of oriented flows”, Paster 1993, 1997; Rublack 2002; Seunjens 2006; Sutton 2007a.

<sup>56</sup> Mead 1702, 19.

<sup>57</sup> Mead 1702, 13.

<sup>58</sup> Mead 1702, 19.

<sup>59</sup> Mead 1702, 17.

Likewise, there were puzzlingly interconnected effects of purely internal processes of fermentation or ebullition. Across the many entries on the interconnections of body fluids in his *Lexicon Technicum*, Harris draws on diverse recent writers to update and mechanize earlier accounts of the stages of purification of bodily spirits. Food affects the blood, for example, in many ways such as in “Chylification,” which depends first the existing state of the stomach and the guts, and then the “various Mixtures and Preparations of Chyle” as it is dissolved and fermented from food: in “Sanguification,” then, as blood and chyle mix, it is easy for particles of blood to be “inangled and detained from flight,” or for the heat of ebullition to become so great that “it often endangers the Vessels they are contained in.” Harris too is attracted in principle by the ideal of geometrizing the influence of air, waters, and places on body fluids: the nature of secretions in general depends on the diameter of the orifice of the secreting duct, on the angle of incidence of the duct with the vessel, and on the different velocities at which fluids arrive at the orifices.

Advertising his mixtures for the cure of scrofulous distempers, James Gibbs tells of a girl from Truro who in 1706 when 16 years old had “an hysteric disorder of her spirits at 8 p.m., plus loss of appetite.”<sup>60</sup> Gibbs identifies two possible causes. Sometimes “the Passages of the Spirits are so obstructed in the Nerves, as to produce Paralytic Impediments,” while “at other times the Spirits are irritated into Convulsive Ferments.” Fortunately his preparation attacks the common causes of both. All nervous diseases are caused by “the Depravations of the *Nervous Juice*” – humours are often “frothed up” as they leave the glands which secrete them, and animal spirits are stagnated or paralysed, preventing the natural office of the fluids, which is “chiefly to *lubricate* and fill the Interstices of the Fibres of the Nerves.”<sup>61</sup> The spirits can be affected or ‘diminished’ equally by acids and by sadness.

In these writers, we see mechanized versions of older cosmologies. The Newtonians identify the mechanics of cosmic and of bodily fluids. For Mead, the same principles of action operate in the Universe and “in the most minute and finest Corpuscles” of any internal vessel with its “very subtle and elastic Fluid.”<sup>62</sup> Whatever the precise ontological commitment (to fluids or vibrating ethers, for example), there are not just analogies but identities across the whole realm of subtle substances. As well as advice on musical and other exercises, this drives ideas about cosmic influence in the ‘lunar medicine’ of this early eighteenth-century period.<sup>63</sup> Gibbs explains how ‘the moon has a considerable influence on the constitutions of some persons’: disorders of the eye, for instance, increase after every full moon because the spirits of the optic nerve are ‘dispos’d directly to receive’ particles of the aethereal fluid which may compress and restrain their turgescence.<sup>64</sup> In discussing effluvia and influences, these writers cite Boyle who,

<sup>60</sup> Gibbs 1712, 10.

<sup>61</sup> Gibbs 1712, 8–12, 38–39.

<sup>62</sup> Mead 1702, 14–15.

<sup>63</sup> See also Roos 2000.

<sup>64</sup> Gibbs 1712, 54–64.

according to Harris, 'is inclined to believe that the Planets may have some Physical Influence or Operation on Bodies of our Globe,' so that (for example) thin air, when "altered by these planetary virtues, must needs variously impress, move, agitate and infect the Spirits or Subtiler parts of all Bodies within its Reach," giving rise to sudden cramps, convulsions, blights, colds, or pestilential invasions which "often, as it were in an instant," seize on our Bodies.<sup>65</sup>

The forms of cosmobiological holism in play in these iatrophysical works, with all their claims to novelty, are just as extensive and as concrete as in earlier eclectic medico-physiological syntheses, and just as easily turned towards a range of practical interventions. Because of the multiplicity of relevant parameters behind bodily changes, all changing at different rates, there were many ways to try to change or influence these interconnected processes between world and body, and within the body. We can now underline the point that these explanatory schemes also and inevitably included psychological disorders and diversions. No matter how much mechanical or Newtonian physiologists wished to discuss the operations of body, brain, and nerves in purely quantitative terms, those who strayed into the morally and commercially intriguing domains of medical psychology – the chancy operations of feeling, remembering, imagining, reasoning, and even perceiving – could not avoid richer boundary-spanning language and theorizing.

## 5 Surpriz'd by Habit: Control and Error in Moral Physiology

In turn, composed or depraved fluids affect the mind. This returns us to mind-wandering. When unguided and undirected, thoughts and feelings are driven by our embodied habits, by the grooved tendencies embodied in our internal vessels and the fluids they conceal. What's appropriate and objective differs from what's improper or corrupt only in its distal causes: the immediate neural precursors of any thoughts are the same in both cases.

In normal operation, mental processes and the actions which they cause are guided by the twin supports of perception and reason. These offer external and internal sources of direction for thought and action. Objectivity is provided on the one hand by the external world, as our senses give us fallible but mostly trustworthy knowledge of reality. And on the other hand, the inner foundation offered by reason delivers clear judgements which, which combined with the impetus of the will, can guide us in practical action.

But these twin sources of direction provided by reality and reason, by the world and the will, do not exhaust the possibilities. After the Fall at least, our own cognitive capacities include a range of mechanisms of distortion. Remembering, imagining, and dreaming, as well as psychological processes directly caused by specific bodily disturbances, all open up the possibility that the ideal transparency of our attunement to the world can be subverted from within. Again, this theme in

our 'empiricists' is clearly present in Descartes too: in *L'homme*, the ordinary mechanisms of corporeal memory are depicted as intrinsically giving rise to fantasy. It "usually happens," notes Descartes, that in the flow of animal spirits over time through the pores of the brain, "several different figures are traced in this same region of the brain almost equally perfectly." This means that

the spirits will acquire a combined impression of them all ... It is thus that chimeras and hyogryphs are formed in the imaginations of those who daydream, that is to say who let their fancy wander listlessly here and there without external objects diverting it and without the fancy's being directed by reason.<sup>66</sup>

In addition to these importunities of imagination, the same processes explain the intrusions of old unwanted memories into present mental life: "It is thus that past things sometimes return to thought as if by chance [*comme par hazard*] and without the memory of them being excited by any object impinging on the senses."<sup>67</sup>

Noting again, in passing, that this doesn't sound at all like the kind of storage system which might be used by the kind of 'Cartesian automaton' described in textbook accounts of mechanism (see also Sutton 2000), we can move on to examine a standard account, shared by so-called Cartesian and Newtonian physiological psychologists, of the relations between perception, inner processes, volition, and action. Mead describes the normal operation of the process:

upon this Representation [of outward Objects to the Common Sensor], at the Command and Pleasure of the Soul, part of the same [nervous] Fluid is determin'd into the Muscles, and mixing with the Arterial Blood there, performs all the Variety of voluntary Motions and Actions.<sup>68</sup>

When developed appropriately over time, this process *can* operate successfully even without the active online involvement of reason. Because of "the Constancy of this Order in us," without reason the representations made to the mind can still "immediately and necessarily produce suitable Motions in the Bodily Organs." Mead is envisaging something very like Locke's association, though in a distinctive iatrophysical language. Like Locke he realizes that we are opened up to the possibility of error by this otherwise useful tendency of habitual processes to continue on without conscious intervention. Patterns of both action and thought which have come to be linked together, if prompted or triggered by causes other than perception or reason, bring disorder and, in the extreme, delirium, which he describes as

the Representation and Various Composition of several Species to the Mind, without any Order or Coherence; together, at least most commonly, with irregular, or, as it were, undesign'd Motion of the Body; that is, such a wandering and irregular Motion of the Nervous Fluid, whereby several Objects are represented to the Mind, and upon this Representation divers Operations performed by the Body, though those Objects are not Impressed upon the Organs, nor those Operations or Motions deliberately Commanded by the Soul.<sup>69</sup>

<sup>66</sup>Descartes 1972, 96. For commentary on this passage see Landormy 1902, 280–1; Krell 1990, 72–3 (on these impressions absorbed "higgledy-piggledy" as "prone to moral turpitude, lassitude, lethargy, and benumbment"); Sutton 1998, 61–2.

<sup>67</sup>Descartes 1972, 96.

<sup>68</sup>Mead 1702, 61.

<sup>69</sup>Mead 1702, 61–62.

This 'wandering' is internally generated. In theory, "the Mind is the first Principle of all Muscular Motion," but here it appears that much of what goes on in us, in driving thought and action, is foreign to it:

in such Cases as these, its Promptitude to Action or Habit being so great, it is in a manner surpriz'd, and cannot recover itself after the Spirits are with violent force determined pursuant to the Representations of the Species.<sup>70</sup>

Surprised by its own habits, the mind is the victim of its own idiosyncratic history, roaming along with its delicate or delirious spirits. Mead offers detailed diagnoses of the distinctive ways in which "the Hurry and Confusion of the Spirits" can render the mind overly vulnerable to certain stimuli – colours, particular emotions, trivial entertainments, or obscene talk and actions.<sup>71</sup> Error takes many forms: insensitivity and oversensitivity to the world are equal risks which were increasingly theorized as part of the physiology of consumerism. Those with weak or slender nervous fibres are too easily acted on by external objects, George Cheyne for example being too "easily ruffled on a surprise."<sup>72</sup>

## 6 Remedies for Reveries

But just as an extraordinary variety of contextual factors could distract or capture the mind, opening it to the influences of habit and the body, so the plasticity of psychosomatic interplay still allowed for a wide array of remedies. These ranged from chemical preparations and anti-hypochondriack pills through musical cures and physical activity and baths and spas to the various forms of exercise recommended by these iatromechanist physicians. As Ishizuka argues, 'exercise' in this period could include anything which initiated or encouraged the internal motions of the fibres, taking drugs as much as riding, because the non-voluntary internal motions which ground both motor and cognitive habits could be exercised and altered in many different ways.<sup>73</sup>

So there could be no distinction between physical and psychological cures: our writers focus on the general idea of gradually coming to know and indirectly influence your own habits by any means possible. They often employed stories about ingrained links between specific thoughts or actions and particular contexts. Apologizing for the "pleasant oddness" and "comical Circumstances" of the tale, Locke tells us of a man who learned to dance in a room where stood a remarkable

<sup>70</sup> Mead 1702, 62.

<sup>71</sup> Mead 1702, 65–67. Mead also offers a geo-sexual climatology: sometimes spirits will "without any manifest Cause at all, be hurried towards those Organs, to which at other Times they have been most frequently determined: and every one knows which they are in hot Countries and Constitutions". 67. See Floyd-Wilson 2003 on related earlier geohumoralist assumptions.

<sup>72</sup> Quoted in Barker-Benfield 1996, 9–11.

<sup>73</sup> Ishizuka 2006, 452–3.

old trunk, and could not perform in any other place.<sup>74</sup> Descartes had offered his own recipes for training the brain. Until a man realizes that the reason he wants to cry at music which makes others want to dance is that he "has never heard a galliard without some affliction befalling him," and that this is because "it evokes ideas in the memory," he has no chance of altering this response. But with *industrie* – effort, or psychological work – to identify and alter our idiosyncratic *habitudes*, we can help ourselves deal with "all the contingencies of life."<sup>75</sup> Likewise, Mead introduces his defence of musical cures, in which a "strong pulse" brings an "increased Influx of the Liquor of the Nerves into the Muscles," by repeating a story which Boyle repeated from Scaliger about the knight of Gascony who had to piss whenever he heard the sound of bagpipes.<sup>76</sup> Modulating these psychophysical connections can be done just as effectively, argues Mead, by indirect means as by the power of the will, since both means have to operate through the same "shaking of the nerves."

Although Locke saw association as primarily the root of trouble – aversion to foods, fear of darkness, unwarranted hatreds, dislike of books, ingrained political prejudices – he also saw a different side to custom and habit. Locke distinguishes motor-based associations from cognitive habits, though he then attributes them to the same cause in the trains of motion of the animal spirits. A musician finds a melody playing itself out in his understanding just "as regularly as his Fingers move orderly over the Keys of the Organ to play out the Tune he has begun, though his inattentive thoughts be elsewhere a wandering." This case helps us to conceive, says Locke, of what he calls "Intellectual Habits, and of the tying together of Ideas."<sup>77</sup>

In turn, custom and habit then for Hume are labels for characteristics of the imaginative processes which produce belief. These are non-rational and non-reflective propensities or tendencies. Some, like our beliefs in causation and in the continuing existence of the external world, are probably permanent and irresistible natural fictions. Others are changeable, more or less weak and irregular, offering opportunities for cognitive and practical reform by way of a change of habits, the implanting of different inclinations by changing our habits of belief. The value of philosophy is that, properly undertaken, "it insensibly refines the temper, and it points out to us those dispositions that we should endeavour to attain, by a constant bent of mind, and by repeated habit." On naturalizing interpretations of Hume, at least, the authority of custom and habit is proper. Beliefs are not formed by reasoning, but in the main by the history-dependent and body-dependent mechanisms of the restless mind.

Further rereading of Hume in light of our consideration of mind-wandering is just one of the threads left open for further research: having identified residues in his work of these discourses of moral physiology and medical psychology, it is tempting to think, with Frasca-Spada (2003), that "the avoidance of physiological

<sup>74</sup> Locke 1690/1975, 2.33.16.

<sup>75</sup> Sutton 2000.

<sup>76</sup> Mead 1702, 70.

<sup>77</sup> Locke 1690/1975, 2.33.6.

accounts in his pages is an oddity calling for an explanation." Likewise, we need to incorporate the many practical and commercial ways in which the multicausal psychosomatic frameworks discussed here still influenced what and how much early eighteenth-century people ate and drank, how and when they slept, took holidays, conversed, what recipes and medicines they took. What I have done here barely scratches the wonderful material in these medico-moral 'mixed discourses' of spirits, body, and self, or of brain, mind, and soul.<sup>78</sup> But by identifying mind-wandering, fantasy, and inattention as a specific domain of enquiry and debate for these historical actors, I hope to have brought to clearer visibility a wide and intriguing range of phenomena which are neither wholly conscious and controlled, nor entirely brute and automatic.

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