THE SCIENCE AND PHILOSOPHY OF PEDESTRIANISM IN EARLY NINETEENTH-CENTURY BRITAIN

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In 1782, Carl Moritz, a German philosophy teacher and fan of Oliver Goldsmith and John Milton, set off on a journey around England. In his letters home he explored the peculiarities of the English, their manners and customs, dialect and diet. Moritz stayed for only six weeks, but proved an astute observer. His English was perhaps rudimentary, but he picked up with ease the vicious inflections with which the natives used the word "Sir." "It is a term," he wrote, "with which the Englishman addresses his king, his friend, his foe, his servant and his dog" (110).

One feature of Moritz's venture stands out for its daring, or perhaps foolhardiness. Moritz, so far as possible, took to his journey *on foot*. Consequently, his tale is a woeful account of the dangers and inconveniences of late eighteenth-century pedestrian travel. Despised and ridiculed, and at one point nearly mugged by a footpad, Moritz felt an outcast, a strolling bedlamite, an uncouth vagrant or worse. "A pedestrian seems in this country," he wrote, "to be a sort of beast—stared at, pitied, suspected and shunned by everybody who meets him." Asked why Englishman didn't walk about their country, a native replied curtly: "They are too rich and too lazy" (144).

Within barely a generation, British attitudes to pedestrians had changed beyond recognition. Rich the English remained, and perhaps by nature lazy—but they were now rich, lazy walkers. Hard and fast and far they walked, and they were proud of it. "Ours," pronounced a commentator in 1815, "is the age of pedestrianism" (*Memoirs* 12). Few who could travel by carriage or horseback in 1780 would have considered going on foot; however, by 1800 Shanks's Pony was the rage, to the accompaniment of a profusion of books setting out pedestrian routes or recording adventures on the tramp, often penned by an author calling himself simply *Pedestres* or *The Pedestrian*.

Walking, or more precisely, *pedestrianism*, was invented about 1800. It emerged partly following improvements in travel and transport in Britain. Eighteenth-century roads were dilapidated and unsafe: no travellers who "set much value on their necks," Squire Weston remarks in *Tom Jones* (1749), would think of driving on roads, especially not at night and advisedly not unaccompanied or unarmed (Fielding 310). According to a critic writing a little later, a gentleman would no more think of travelling from the West of England to Wales than "travelling the deserts of *Nubia*," although, he adds sourly, "every man and woman that has a hundred superfluous guineas must turn bird of passage, flit away cross the ocean, and expose themselves to the ridicule of the *French*" ("An Essay" 553). Continental tours were all the rage, while touring within the British Isles remained unfashionable throughout most of the Georgian era. Looking back from mid-nineteenth century, Samuel Smiles congratulated Britain on the transformation it had wrought in domestic travel and lauded its engineering heroes. The highways, he wrote, were formerly "infested by troops of robbers and vagabonds who

lived by plunder. . . . Travellers armed themselves on setting out on a journey as if they were going to battle, and a blunderbuss was considered as indispensable for coachmen as a whip," but by the early 1800s, the roads had been improved beyond recognition and travel was now cheaper, easier and safer than ever before (Smiles 1: 175; 2: 388, 427).

Victorian gentlemen and women continued, of course, to travel in carriages, post-chaises and on horseback, and did so avidly; so, too, did many Victorian field scientists. Yet contemporary evidence suggests the emergence within the ranks of naturalists of a significant division, which I shall attempt to tease out in this essay. Three categories can be identified. The first comprises "closet" naturalists, a group increasingly identified with women; the second, those forming the "fashionable" set who ventured out on the road but only, as a critic put it, in order to "see little but travel far"; and the third, those who ventured forth properly equipped to undertake a study of the landscape, its rocks, fauna and flora (Barrell iii). The first seldom left the drawing room and went no further than the garden or the woods and fields in the local vicinity, never trespassing on non-domestic (or non-domesticated) spaces. The second went further afield, but in carriages or on horseback, so earning the scorn of serious empirical students of nature and, indeed, of pedestrians. Travel by stage-coach, writes Stansbury in 1822, "is the most imperfect; for we are in a manner, sailing upon land, where the limited prospects, obtained through the windows of the vehicle, pass away like confused dreams and airy bubbles of imagination." Stansbury further notes that he that walks can "scrutinize the works of nature with convenience; and without materially incommoding himself, can examine every little curiosity" (x, xi). The third were the foot soldiers, naturalists who ridiculed the lower divisions for their effete ways and ineffectual practices ([Brande] 6). "Tell me not of chariots and phaetons, or any other conveyance, as aids for seeing . . . things, but of your feet" commands a commentator in 1846 (Sylvanus 6).

The above discussion introduces some of the topics examined in this essay, devoted to walking, or more exactly, pedestrianism. "Walking," wrote Arthur Sidgwick, "is one of the many things whose history is not to be found in the historians" (181). Sidgwick's own *Walking Essays* notwithstanding, that verdict would be as true today as it was when Sidgwick announced it 85 years ago. Walking seems to have brought out the very worst in critics, as though the subject itself invited one to take one's critical faculties for a gentle ramble. Certainly, the subject has attracted some erratic talents, with Morris Marples's volume, *Shanks's Pony* (1959), a meandering mix of gossip and nostalgia, one of the strangest of the bunch, full of pen portraits and cameos that could have been drawn from a gallery of English eccentrics. To some, like C. Lang Neil (1903), walking is a kind of symbol of the civilising process, while to Leslie Stephen (1910) it is a springboard for metaphysical flights of fancy. Robert Louis Stevenson took up and extolled the virtues of walking as a means of bodily purification, mental rumination and contemplative ecstasy (99-105), while the otherwise sober-minded historian G.M. Trevelyan found in his mountain rambles a flamboyant, quasi-religious experience, a "repossession of [my] own soul" (2).

Anne Wallace's important treatment of walking in nineteenth-century English literature is an exception to the continuing validity of Sidgwick's remark, but her book is too narrowly focused to help lay out the contours of the history of pedestrianism, while the handful of other shorter studies devoted to walking lack sufficient richness of

context to explore the subject's real significance. A.J. Bennett provides a useful reminder of the symbolic role the foot excursion plays in Wordsworth's verse, and D.C. Smith examines Henry Thoreau's almost obsessive walking, but without a sense of how common walking was at the time, what cultural freight it bore, and who took up pedestrianism, and how and why they did so—without, in other words, a sense of pedestrianism outside literary texts—it is difficult to find the value of such insights to the history of the subject. Pedestrianism puts one in mind of a comment of Chesterton's to the effect that the neglected side of history does not consist of little things that the learned obscurely conceal, but rather of large things which the learned frequently ignore.

But what is—or what might be—a history of pedestrianism? The question is an ample one, and this is not the place to attempt an answer. Instead, I suggest in this paper some of the ingredients that might inform a social and cultural history of pedestrianism in early to mid-nineteenth century Britain. My study is of an activity that emerged in the 1800s laden with class and gender associations: something undertaken rarely, if at all, by gentlemen in the eighteenth century but defined in the nineteenth as a multivalent and very positive benefit. Pedestrianism was significant, I shall suggest, in bolstering and configuring notions of manliness and masculinity, in laying a basis for the culture of such field sciences as geology, botany and natural history, and in helping to identify and solidify native British virtues. Starkly put (as brevity demands), I wish to suggest that pedestrianism became a means by which the emerging middle classes validated their own status: a leisure activity, on the one hand, but also a means to an end. That end was cultural definition, physical and mental health, and social prominence.[1]

English Footmen

Pedestrianism was hailed in the early nineteenth century as a patriotic virtue, a proudly British accomplishment. This introduces us directly into an aspect of natural history's specifically nationalist identity that has been little studied. To read present-day accounts of science during this period without reference to patriotism, or to the menacing presence of the French, seems a little like Hamlet without the ghost. The continental spectre was everywhere, not only in living memories of battles against the French but in the opening years of the nineteenth century in war against Napoleon, when loyalism and patriotism were powerful across the whole of Britain (Dozier, Dickinson, Philp). Seized with the prospect of invasion, the British built fortifications along their southern flank, began conscription, raised civil defence forces and introduced an onerous range of fiscal and political regulations. Indeed, according to Linda Colley's recent book, *Britons*, strife with France, its culture and religion, actually brought Britain as a united nation into being. To live in Britain from 1800 to 1830 was

[1] I should say, finally, that I raise in the following pages a host of issues which are not dealt with adequately. Amongst these are the importance of Romanticism to the history of pedestrian excursions, walking in cities (a topic richly covered in Dickens, for example), and the dynamic culture of athleticism (wonderfully disposed of in Collins's recently reissued 1871 novel *Man and Wife* [Oxford UP, 1995]). Nor does it consider seriously enough gender and class distinctions in the culture of pedestrianism. These themes will be dealt with comprehensively in a larger work, currently in progress.

to be engulfed in a wave of patriotic pride in country, monarch and religion. It was with evident relief that one commentator declared in 1833 that "we have greatly changed—*we no longer hate the French*" (Bulwer 179).

In this matrix of nostalgia and self-congratulation, pedestrianism was celebrated as something the British possessed and their best of enemies, the French, did not. The British invented (or, more precisely, *re*invented) pedestrian races, in classical idiom, and celebrated the accomplishments of such gentleman foot soldiers as Captain Barclay, Lieutenant Fairman and Mr Wilson, Esq, men who could pace 1000 miles in 1000 hours, or from Land's End to John O'Groats in a fortnight. At a time, indeed, when other sports received little public support (at least in an organised way), walking competitions were promoted through clubs and associations from the turn of the century to the 1850s, by which time a reporter could complain that walkers in Scotland had become "a positive nuisance . . . the highways clogged . . . on Saturday evenings" (Tranter 191; Hobsbawn 299). When William Thom came to publish his study of the subject in 1813—named *Pedestrianism* but promoted on the front cover with the beguiling title *The Philosophy of Pedestrianism*—he had plenty of heroes to choose from. Thom depicted the pedestrian as a gentleman of bountiful appetites, a sturdy John Bull prototype brimming with courage, endurance and strength. Discarding the Frenchman's promenade as "fashionable frivolity," Thom and others enjoined the British to display on the road that sturdiness for which they were famed; meanwhile songs and verse glorified the nation that could outpace any on the face of the earth ([Thom] 31; Birkbeck 102; also G. Wilson, 6; *Memoirs*).

Field Science

In the midst of this culture of national self-congratulation, one thing seemed to bring shame to Britain. This was her science—which, as Charles Babbage reported in 1830, was in precipitous decline, the result of poor funding, dismal government support and decrepit organisations. But as Babbage conceded, while chemistry, mathematics and physics were Britain's disgrace, geology and natural history were her pride—glittering showpieces on the otherwise barren landscape. Edward Lytton Bulwer, in his book *England and the English* (1833), more or less follows Babbage in his denunciations and, like him, makes an exception for "the more popular and useful sciences," citing societies for cultivating geology and botany flourishing throughout the country (Bulwer 336, 335-38). Such sciences were, it appeared, strides ahead.

Literally so. For geology was not just theoretically advanced through the work of Playfair, Lyell, Buckland and others, but based firmly and famously on an ethic of fieldwork; the replacement, as one reviewer of a study of natural history wrote in 1831, of "worn out and ridiculous theories of book-making pedants" by work "in the fields and groves" ("Browne's *Naturalist*" 210). Central to fieldwork was the conquest of territory through travel. "We must preach travelling . . . as the first, second, and third requisites for a modern geologist," Lyell wrote in 1829 to Murchison, with whom he had earlier set off across Europe (Rudwick 95; see also L.G. Wilson 214-15). The Royal Physical Society, based in Edinburgh, encouraged a program of researches "to bring out the zeal of its Fellows, and to initiate the junior votaries of science in the details of fieldwork" (Balfour 13). In lauding himself and his readers on the "rapid"

progress of geology in Britain, W.D. Conybeare in 1823 attributed this to the abandonment of "idle endeavours to construct theories without data" in favour of "inductive observation" (1).

Off the British went across miles of newly-laid roads and footpaths, armed with guidebooks and taxonomic charts, stirred by a zeal to collect facts, exercise their bodies, and test their manhood, often under the banner of Francis Bacon, Protestant, Englishman and inductive philosopher (Yeo, J. Smith). There were plenty of naturalists and geologists willing to act as cheerleaders and regale the masses with tales of manly fortitude, self sacrifice and endurance under adversity—with tales not only of travel, but travel on foot, the hard way. There is Lyell, with Roderick Murchison in tow, tramping apace across the Auvergne, exercising "all day long for the body & geology" (L.G. Wilson 198). There is George Gordon, the Scottish naturalist at Birnie Manse, covering 25 miles a day across the icy Highlands (Collie 32). And here the Reverend Thomas Grierson managing 15 or 20 miles on foot before breakfast ("my ordinary arrangement"); indeed, in his *Autumnal Rambles*, he suggests that anyone undertaking a journey on foot over several weeks should plan on 30 miles a day as "fair enough work" (13, 228). And, if this seems to set an impossible standard, what of John Aiton's pedestrian tour of 8 weeks? He walked 10 to 12 miles at dawn, rested an hour or two, then managed 10 to 12 miles before lunch, and followed this by another dozen miles in the afternoon (x-xi).

Such tales, recounted and embroidered, and spiced to taste by the rhetoric of earthy violence I have explored elsewhere,[2] are part of natural history's genealogy, a kind of invented tradition. Even the father of British geology, James Hutton, becomes in Playfair's widely circulated obituary of 1805 a kind of pedestrian *malgré lui* as we encounter him on the tramp, a solitary figure on the roads and footpaths of England, developing his uniformitarian theories (50-51). This is interesting. We know that Hutton walked, not untypically, for two or three hours alone after dinner and on several excursions through England in the mid-century (Playfair 93; Eyles and Eyles 332-33). Yet, reports written by Hutton and published during his lifetime seldom mention his pedestrianism and on occasion (as in his paper on Arthur's Seat) refer to his being "carried" to the site (3). It is as though he was unwilling to admit to walking, or was he perhaps unaware of its value? By the early 1800s, in stressing how *far* they tramped, British naturalists and geologists were not only fashioning themselves as sturdy, manly empiricists but also as reliable witnesses, and as experts in assessing new geological interpretation. Walking—or rather, the extent and range of one's walking—becomes a mark of authority on the validity of natural historical facts, a mark of the author's enthusiasm, diligence and power in overcoming what Adrian Haworth in the introduction to his *Lepidoptera Britannica* (1803-24) calls "infinite difficulty and unwearied perseverance" in walking "on *foot* and alone" (x). In critiques of Werner's system, for example, one finds the claim that the system is poorly founded on fact because Werner himself, and his acolytes, failed to walk sufficiently far. The criticism, voiced in these terms by Thomas Allan in 1813, meets an interesting response. James

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[2] See my "Darkness Visible: Underground Culture in the Golden Age of Geology." *History of Science* 32 (1995): 1-62.

Grierson writes denying that Werner needed exhaustive field experience any more than Hutton needed to visit the centre of the earth to make sense of it (Grierson, "On Transition Rocks" 104; see also his "Mineralogical Observations" 375-76). To which Allan's reply is that Grierson *himself* has failed to appreciate the significance of fieldwork on foot, because he has failed to "wander much out of the track" ("Answer" 110). It is in walking, then, that the naturalist or geologist seems to guarantee his own authenticity and bolster his credibility.

No man needed then to walk alone, for societies were launched to promote the field sciences and field excursions. Bodies such as the London Geological Society and the Wernerian Natural History Society, along with an assortment of local naturalists' field clubs, organised and encouraged pedestrian excursions (see for example "Naturalists' Field Clubs"). The enticement of pedestrian excursions drew men—Charles Darwin is one such—*into* science, providing a complex of motivation, justification and reward. One wonders, indeed, how many figures were attracted to natural history via pedestrianism, how many, in others words, found science to be a kind of defence of their walking, an activity which might otherwise lack the middle-class virtues of respectability and usefulness, rather as travel in an earlier period had struck some Puritan spirits as a sinful departure from the God-given order. Peter Hansen's fine study of Victorian mountaineering has shown how many Alpinists in the mid to late nineteenth century sought to justify their passion for mountaineering by taking with them on their treks a variety of impressive looking but in reality more or less useless scientific instruments (123-24). For the earlier decades of the century, there is also evidence of scientific investigations being used as a pretext for pedestrianism, particularly by a developing middle class adhering to a utilitarian philosophy of work, commerce and thrift and for whom the traditional recreations of the rural elite or the urban poor were thought inappropriate ([MacKinnon], Bailey, Ritvo 241). J.S. Mill, for example, botanised as he walked and seems to have used the former to justify his excursions on the latter (Stephen 267; [Reeve] 99), while the naturalist William Swainson in his *Preliminary Discourse on the Study of Natural History* (1834) recommends science in the field for those who would otherwise "express repugnance to exercise . . . because they have no object to take them abroad!" "Could such persons once enjoy the pleasure experienced by the field naturalist," he continues, "they would no longer complain" (126-27).

The Physiognomy of Gait

How far one walked was crucial, and so too, *how* one walked. Invented as it was at the turn of the century, pedestrianising had to be learned, and many were the books and instructors willing to teach on the subject. "The head and body should be erect" begins one self-proclaimed "Professor of Gymnastics" in a pocket book of 1827, "the stomach held in, the shoulders back, the knees straight, and the toes turned out. The arms should move freely by the side, the feet be kept parallel with the ground, and the body rested on the back of the foot, not on the toes or heels" (Hamilton 12-13). At issue here is not only efficiency of locomotion—how to survive a 30 mile hike using the best mechanical science available ("Mechanical Work of Walking")—but questions of character and morality, questions finally of gentlemanliness, and indeed of national self-identity.

Walking was important in part because in these tense times, during a period when Britain was either engaged in or recovering from wars with Napoleonic France, so much could be signalled in one's *démarche*. "The character of a nation," wrote the German exercise teacher Salzmann in 1800, "is often displayed in external modes of action, particularly in it's [*sic*] peculiar mode of walking," adding that "every one walks according to his natural disposition" (330-31).

Books such as *British Manly Exercises*, published in 1834 by the appropriately-named Donald Walker, carefully described walking in various modes: slow, moderate and quick, and walking to different effects. Meanwhile, Peter Clias in 1823 discounted those that believed that "every body knows how to walk," saying instead that his experience was that only rarely could one see a man walk with the correct posture, confidence and dignity. The correct and well executed movement, Clias added, "evinces not only the force of the body, but, more than in commonly thought perhaps, the moral character of the individual" (2). Texts mocked the French for their mincing promenades down the boulevards—and showed how to do it better. Others still showed how individual morality was displayed in one's gait and road manners. Before long, a semiotics of the walk developed in Britain as in France. "Isn't it really quite extraordinary," Balzac wrote in 1833, "that since man took his first step, no one has asked himself why he walks, how he walks . . . what he achieves in walking, if there couldn't be a way of controlling, of changing, of analysing his own walk" (qtd Bennett, "'Devious Feet'" 170). This in a long essay whose conceit is that everything of significance about a person can be discovered by attending closely, and scientifically, to his walk, the key to the physiognomy of the body, to a man's vices, guilt and morbidity (Balzac).

Why walking as a clue to character? Phrenology and physiognomy were also widely used at a time when, with rapid urbanisation and a mixing population, it became necessary to know the character of the man (or, indeed, the woman) walking towards you, or with whom you had business, or to whom you were obliged (Graham, Tytler, Rivers, Wechsler). And according to the influential propounder of physiognomical theory, Johann Caspar Lavater, along with facial expression, a person's walk formed part of the "alphabet" by which one could "spell character" (222). In the city, clothing could be a potent sign of gentility. How you looked, and where you were to be seen, indicated who you were, and transgressing spaces and places was quickly intelligible. In 1833, a British Parliamentary Select Committee on public walks declared:

> A man walking out with his family among his neighbours of different ranks, will naturally be desirous to be properly clothed, and that his Wife and Children should be also. . . . this desire duly directed and controlled, is found by experience to be of the most powerful effect in promoting Civilization. (Report from the Select Committee 9)

Out in the field or on the road, this civilising effect was much attenuated because pedestrians needed to dress down a class or two. Just as geologists got dirty on their hands and knees all day, so pedestrians were obliged to don heavy boots, a rough knapsack, moleskin trousers and the like (see Kitchiner 1: 79, 250). "Don't worry about being stared at and grinned at by the vulgar," a traveller wrote, "be not ashamed to *pad*

the hoof in a humble guise" (T. Grierson 10). A naturalist setting off on a tour of Wales describes in 1795 how he and his companion were "completely metamorphosed": "You would not recognise us through our disguise," he reports, "as for all ideas of appearance and gentility, they are entirely out of the question—our object is to see and not to be seen" (Hucks 5; Newell 14-15).

In the consequent confusion of the countryside, the eighteenth-century signs of wealth and status—the size of one's carriage or cut of one's clothes—no longer held power (Aiton iv-vi). Shepherd's *Pedestrian Tour of Wales* in 1820s noted:

> the inconveniences and difficulties attending a *Pedestrian Excursion* are many and great. At one time the Roads are rendered so muddy by the Rain that it is almost impossible to proceed; and when, perhaps, you have dragged on at the rate of a mile and hour. . . . At other times, you are exposed to the inclemency of the Weather, and by wasting time under the shelter of a Tree, or a hedge, are benighted in your journey, and again reduced to an uncomfortable dilemma. But even allowing that you arrive safely and seasonably at the place of destination, you are not certain of being accommodated, for Innkeepers frequently hesitate to admit those who travel on Foot. (qtd Kitchiner 1: 241-42)

To which the editor of the volume adds: "This is an inconvenience not uncommon—the Equestrian is always more welcome than the Pedestrian—and the Gentleman in a Carriage before either."

Manly Walks

Pedestrianism was not only reconfigured in the nineteenth century as a gentlemanly and patriotic pursuit, but widely valorised as a manly—or, more precisely, a *man-making* activity. "What an *effeminate* feature it is in the character of a nation," wrote one commentator, "to be continually lolling on cushions in drawing rooms or carriages, and to *play almost wholly with the mind*!" (Salzmann 77), while another saw the celebration of competitive pedestrians as a necessary corrective "in these times of effeminate habits and manners" (Gilbert and Howell 6). Pedestrian foot-races, indeed, become a substantial feature of the sporting, and betting, landscape, with a variety of extraordinary feats of pedestrianism widely celebrated in books, pamphlets and such journals as the *Gentleman's Magazine* (Pearson; *Short Sketch*).

Clearly, gender must figure in the history of pedestrianism. There is more here than simply asking whether women participated in geology and natural history: it is more important to find out *how* gendering concepts of masculinity and femininity are manipulated and refined in science. It is important, too, to discover how and on what terms women (and, of course, men too) participated in the field sciences. As it happens there were hardly any women in geology, but some did participate in natural history. How? Evidently they published books, reviews, catalogues and translations. Writing was, under certain conditions, compatible with early nineteenth-century feminine propriety. It is worth noting in this context that many publications devoted to natural

history, especially journals and books on botany, did little to encourage fieldwork and gave no advice of collecting specimens from nature. With accounts of vegetable anatomy and physiology, biographical profiles, frequent references to natural theology, the whole often lavishly illustrated with hand-coloured plates accompanying taxonomic data, such publications as *The Magazine of Botany and Gardening*, launched in 1833, encouraged a passive spectatorship rather than active participation in collecting, classifying and describing. Natural history was an indoor pastime not an outdoor pursuit, something of beauty not rigour, a genteel affirmation of God's natural designs rather than the physical labour of foot travel, pursuit and conquest.

But what about participation in field science? A recent and interesting study of nineteenth-century natural history and botany suggests that the "sphere of operations" of women "was in the field" (Stevens 9). While this essay is not the place to take up properly the question of gender in natural history, the impression given in the contemporary literature does not bear out the claim that the "field" was a sanctioned site for female work. Women's participation in natural history, geology and allied studies was specified and narrowly bounded by notions of domesticity and manners, by ruling ideas of the female body and imagination, and it is notions such as these that we need to explore.

Did women pedestrianise? The evidence from organisations and societies that promoted fieldwork is that they did not. Women were not thought to be physiologically equipped for pedestrianism, while its culture, indeed the culture of the day, was not morally or socially equipped for them. But over terrain, covering large distances, certainly not. I continue, somewhat against the grain but I think with evidential support, to see geology, certainly, and natural history, at least as a field science, to be masculine activities, indeed man making activities. I wrote above of walking as a novel activity. It is also an activity *in* novels, and here the oddity of the female pedestrian is notable. Elizabeth Bennet, in *Pride and Prejudice* (1813) walks three miles across the fields to Netherfield, but this is judged sensational; indeed, the walk is a site for the dangerously intimate, the scandalous to occur—the meeting with Darcy, in this case (in Scott's *Anne of Geierstein*, the heroine and Arthur Philipson meet on a mountain ledge, in a scene judged in the 1820s to be especially powerful). Marianne in *Sense and Sensibility* undertakes a little solitary walking, but it does her no good. The female walker, especially the solitary walker, is at best risqué and at worst likely to be taken for a prostitute; when Evelina, in Burney's 1778 novel, walks through the dark footpaths of Vauxhall, every man who sees her assumes she is a prostitute. According to Tony Tanner, writing about adultery and transgression in the novel, the assumption is that external signs of behaviour and decorum are reliable indicators of hidden character and morality: how you look, where you are, what you do—all tell *who* you are. In *Emma* (1816), according to John Wiltshire, men walk and women do not: once Emma goes one mile to Randall's but the experience is unpleasant; on another occasion Harriet and a companion venture out but are menaced by gypsies; Jane Fairfax's little venture to the post office on foot is the subject of anxious comment and much concerned neighbourly solicitude.

Several guidebooks from the early part of the century go so far as to warn women against walking in favour of the horse or carriage (G.J. Bennett 3). There are evidently questions of moral probity at stake, particularly so in female solitary walking,

and not only through association with prostitution. Women pedestrians could also come upon men in the field, and sometimes, indeed, upon bathers who, as John "Walking" Stewart reported, "disregarding sexual distinction, appeared in *statu naturae*" ([Brande] 403; Hucks 29). Short of concealing one's sex in male attire, women walkers certainly had a hard time of it, and were poorly equipped for long treks: thick sticks, boots "with very stout soles, thickly studded with nails," and protective weaponry were not available for women (Gilbert and Howell 12; Kitchiner 1: 78-80, 250). Some women, it is true, did go forth in male clothes, but this was to court danger and ridicule: Mary Anning, the celebrated fossil hunter from Lyme Regis, is pictured kitted out in men's dress, and this at a time of considerable and developing concern about "cross-dressing" (Colley 242).

So what of the documented participation by the women in natural history? The key here is, as I have suggested, to distinguish different *kinds* of participation: women collected locally, drew and painted, and they maintained herbaria and gardens. When they were not being "ornamental" (as they were in many natural history societies), they pursued *cabinet* botany, *drawing* room science, and sometimes they ambled into local, domesticated natural spaces, generally in the footsteps made safe by their husbands, taking notes perhaps, or preparing sketches. But they did not venture, or did so extremely rarely (and the with risks associated with, for example, cross-dressing), into the territory where knowledge was fashioned. Women did not participate in the culture of pedestrianism so important in the shaping of natural history, unless it be as that ubiquitous, loose, precarious, yet powerful Other. They appear in natural history as they do in Verdi's *Il Trovatore*, for the most part off-stage.

The Solitary Vice

Pedestrianism was an essential ingredient of the field sciences. It was also, as I have suggested, a means of displaying character and morality. It could even *improve* character in several ways, as is clear from medical testimony. Taking to the tramp was widely judged to be the best means of preserving health and restoring mental equilibrium. Intriguingly, the man who cried most loudly the dangers of self-abuse (masturbation), Samuel Tissot, also published an influential book on the diseases of intellectuals. Tissot's *Onania or, the Heinous Sin of Self-Pollution* which, under a variety of titles, went through numerous editions during the eighteenth century, warns of a manly race masturbating itself into decline, while Tissot later cautions that despair, depression and death result from a life devoted only to intellectual pursuits. Indeed, the onanistic man is described in almost identical terms with what Tissot labels broadly "the philosopher"—each has the same pallid countenance, parched lips, coated tongue, emaciated body, *powerless limbs* and *troubled respiration*. This was a connection made explicitly in several texts, including William Farrer's *Short Treatise on Onanism* (1767) which targets particularly those "who are long immured in colleges" and those who cultivate the imagination. Such, writes Farrer, "by a most detestable kind of magic, conjure up at pleasure a *Venus*, and thus never want an opportunity of enjoying an imaginary mistress" (12-13).

In 1836, Joseph Davis excoriated the man with "pallid countenance, pinkish, parched lips, coated tongue, offensive breath, distended skin, powerless limbs,

respiration becoming panting, and cough supervening on any quick motion" (75, 308); a man who, sure enough, will, without quick remedy, tumble into weakness, impotence and deformity. What is he describing? The onanistic man? The effeminate man? The sedentary man? One can hardly tell. In any event, the cure remains the same: walking. Clias offers pedestrianism as the means to "destroy in the germ a dreadful vice, which tends every day to the deterioration of the human race" (vii). In what is a nicely judged analogy, a writer in 1823 compares the indolent to a rusty machine which is quickly prey to corrosion and destruction, "whereas the active (though they also must perish), may be said to be always bright and polished" (Voarino 15). Walking then takes your mind off sex, revitalises the sedentary and exhausted body, and helps to reassert control over the rampant imagination. Davis tells us how the naturalist Cuvier walked himself to health, just as others tell us how Humphry Davy worked himself to ill-health (Davis 318; Paris 1: 286; Warren). Tissot writes of how "a walk for two or three hours in the country dispels [symptoms] entirely," adding later that "all men of letters ought firmly to resolve to give up at least two hours every day to exercise. . . . Walking alone is very beneficial" (qtd Voarino 98-99). "No gout, no head-ache, no blue devils have I on a walk," writes "Sylvanus" in 1846 (6). Salzmann meanwhile finds the race of men threatened by sedentary life, which encourages laziness, effeminacy and national collapse (68-69, 77).

Health and Efficiency

Pedestrianism restores the body's musculature and strengthens the mind in its struggle against imagination, sexual or philosophical. But walking alone and on its own is not a sufficient remedy for a mind overtaxed and a body overrun. On the contrary, the solitary walk can, as Rousseau's book had it, lead precisely to *reverie*, languid dreams carried forth on a tide of imagination. What both the masturbator and the philosopher suffer is a surfeit of imagination, that vexing, disabling and vicious mental monster. To exert its rightful impact, the walk needs to fix the mind, not release it. As Samuel Johnson noted in 1773, the use of travel "is to regulate imagination by reality, and instead of thinking how things may be, to see them as they are" (2: 78). To walk idly, to amble or to wander is to go as women do, and indeed, as Romantics often do in the hope of mental release or spiritual renewal. Such ambling and wandering—Wordsworthian excursions if you will—do nothing for science, for which it is essential to walk with design, with the mind focussed on the unimaginative, Baconian and man-making activities of collecting, seeing, describing.

But if walking alone is "very beneficial," walking *on its own* is not. The point of the exercise, so to speak, is to keep mind and body supple and alert; more specifically, rampant imagination of the kind that produces monsters, spectres, dreams and various other impairing delusions, needs to be tamed. To wander idly and without purpose would contravene the object: it might, indeed, encourage mental wandering. One must walk and yet maintain the mind occupied. (Here, indeed, appears a distinction between pedestrianism and rambling, with the latter often described as something fit for the amusement of the idle.) The Romantic notion of creative composition on the tramp receives short shrift for naturalists and pedestrians: "He makes but poor use of his leisure hour who meditates as he walks, and returns to his

study or desk to pen his rambling cogitations" ("The Naturalist in Devonshire" 388). Well known are the stories of the Romantics' collapse into drugs, dreams and dilapidation; equally known, although I will not develop the point here, is the use by the Romantics, Wordsworth particularly, of the walk as a metaphor for freedom, vagrancy and transgression (A.J. Bennett). The advice instead is to "appreciate the various natural beauties and attractions," to look and see, select and collect, hammer, pick and carry home (Pearce 23-24).

In an age where the mind and body were victim to all manner of assaults real and imagined, where one's bodily and mental health seems to balance frailly in equipoise, the slightest upset could tip the scales. So walking is recommended, so easy to regiment and control; and work is recommended during the walk, but nothing too fancy or taxing. Natural history and geology fit the bill just perfectly as a means of mental repair and recovery. For both are active and yet simple pursuits, perfect curatives for the debilitated and enfeebled body, the wrecked, overheated mind. So these pursuits impart, as Davis notes in 1836, "an interest in walking" (note how science has become a means to an end rather than walking a means to science) (392). When Thomas Chalmers writes in his Bridgewater treatise of how God has provided in nature "a richly furnished gymnasium" for man, one is inclined to take the analogy in a literal sense (as indeed does Davis 417).

Walking as Therapy

The concern with diseases afflicting sedentary lives becomes acute in the early nineteenth century, and gives a boost to the little studied topic of medical gymnastics, a practice as widely adopted in schools and universities as by individuals. ("In a short time," writes Hamilton in 1827, "we may . . . expect to hear of professors of Gymnastics and Callisthenics, at least, in every country town" [50].) There is much talk about philosophy ruining the body, the dangers of excessive study, and such like. The warnings are not idle, for examples are cited in graphic detail of the stone, dropsy, constipation, melancholia (of course), anaemia, and suicide. "Propensite (*sic*) to luxurious living united with Indulgence in bodily rest, and from their embraces spring an army of infirmities," writes one critic curtly in 1800 (Salzmann 51). Writing in 1819, again in favour of walking, Pearkes quotes an authority who records seeing "men of the first talent, who have done much in the advancement of literature, live for more than twelve months in complete idiotism, and at last die by this species of apoplexy," and himself adds that gloominess of mind can often collapse into suicide (19-20, 65-66, 71).

Walking as a kind of therapy is a topic well worth exploring, and so too the significance, directly and indirectly, to this of arguments favouring the development of natural history. In an era that found several writers of manuals and textbooks in natural history and geology seeking justification for their pursuits, their bountiful health-giving properties along with their literal and figurative down-to-earth natures were frequently stressed. "Why geology or natural history?" was asked. Answer: it administered a spiritual and bodily welfare (for example, Swainson 108-14). At least, this applies to what Swainson terms the "practical" as contrasted to the "closet" naturalist (Swainson 125; Kingsley 165). Counselling the wide adoption of active natural history, Swainson

adds that "there are few invalids, except the infirm, the aged, or the diseased, who would long remain so" (127).

Did the walking cure work? Was natural history really *good* for you? Certainly propagandists for gymnastics, busy at work from the early 1800s, believed them to be so; I cannot overemphasise how *many* philosophical men took up walking, exercise and callisthenics for what they perceived to be absolutely essential reasons, whether one considers Hugh Miller lifting weights in his editorial office, Herbert Spencer composing reviews during his games of tennis, or the young J.S. Mill swinging on the beam in Bentham's coach house. There exists a brilliant survey of the health and longevity of different professions undertaken in Yorkshire in 1831—a kind of medical topography, I suppose. C. Turner Thackrah in 1831 examined the longevity of different professions in and around Leeds. Men "devoted to science and literature," he described, in words that ring all too true today, as "persons who live in a bad atmosphere, maintain one position most of the day, take little exercise, and are frequently under the excitement of ambition" (97). Considering their bodies more carefully, Thackrah continues: "The stomach becomes foul, the secretion of bile is impaired or vitiated, the bowels are sluggish, and constipation, with its attendant evils, progressively succeeds . . . the body either wastes, or becomes phlegmatic with impure blood."

The ancient philosophers, Thackrah admits, lived to a ripe old age—Thales to 91, Plato to 81, Democritus to 100—but this bears out his point, since these were, he assures us, "almost all peripatetics, in *practice*, travelling from country to country, disputing and enquiring in their walks" (99). So the remedy is the walk: "I do not mean a walk at the rate of a funeral procession; or a ride on horseback, at the pace of a market woman" (101). What then of the naturalists? Thackrah sees them as a separate category from his cohort of men "devoted to science and literature": they "exercise in the open air, and cherish that state of mind, in which there is much hope and little disappointment. . . . A judicious parent (he adds) would be far more anxious to give his children a taste for natural knowledge, than for literature" (103). In the survey we read of the pitiful physical condition of British men "devoted to science." Their burden is not only rotten status and organisation, as Babbage had said a year earlier, but rotten bodies to boot. Living in a bad atmosphere, with little exercise, and prey to what Thackrah calls (in words eerily familiar today) "the consuming excitement of ambition," such scientists suffer the foul stomach, sluggish bowels and other vices.

But Thackrah allows one happy exception: the naturalists, who, he writes, "exercise in the open air" and "walk hard." They are amongst the healthiest men in the country—truly the backbone of the nation. Here then we are back in familiar territory, where the figure of the geologist and naturalist looms large and handsome on the British landscape: proud, patriotic, healthy, masculine, intellectually sound and morally beyond blemish.

Conclusion

At a time when the English routinely scoffed at the French for their pampered indulgences, their salon theatricality, and what a foot-traveller there described as the Parisians' "fashionable frivolity" (Birkbeck 102); when, truth to tell, some of the citizens of London were also lambasted, as they were in 1818, for their "delicate

organization, morbid irritability and keen susceptibility" (J. Johnson 56), taking to the tramp was a way, as one put it, to turn the pale and the puny into a race with the strength of a warrior nation. Once again, walking was seen as constitutive of a reinvigorated nation: Britain's pride. So too were geology and natural history. Linked together with walking into the culture of pedestrianism, this in turn offered evidence of what in 1815 was called "the constitutional sturdiness of the British frame" (Gilbert and Howell 10), and what another described self-gloriously as "one of the finest and strongest figures of all European nations" (Forrest 9), and a third, writing in 1860, could look back and see as the key to the "health and spirits" of the Britain (Lennox 1: 151).

Turning back to science and natural history, this paper on walking opens up several interesting lines of enquiry. The key ingredient of patriotism is highlighted in walking practices and ought not to be ignored when we treat some of the cultural and political ingredients in these sciences. The emphasis on fact-collecting is hardly novel for us today; we are well aware that this was a significant mission of early societies promoting geology and natural history; Conybeare, writing in 1823, attributes the rapid progress of geology to its abandonment of the "idle endeavour to construct theories" in favour of "inductive observation" (1). But one less familiar twist emerges from the emphasis on walking, one indeed that manages to underscore both the Baconian and the anti-continental elements in geology. Indeed, the recuperation of Bacon in the early nineteenth century, coupled with his rescue from identification with the values of the French Enlightenment, lead to his reconfiguration as an emphatically British thinker, the founder of a method which, as Charles Kingsley put it, was the one approved of by God for Englishmen (Yeo 252; J. Smith 15). The opposite of fact collection, induction, is something suspiciously continental, what a reviewer of Buckland's work terms "hypothesis and extravagance" ("Notice and Review" 150-51).

Let me in conclusion return to Carl Moritz, the German philosopher we met earlier, tramping through England in 1782. He was cursed, censured and brutalised for his trouble. How little he knew that within barely 20 years, a similar venture might have made of him a patriot, might have given him good health, might have rid his mind of polluting images, and would surely have inclined him to natural history and geology. In 1782 he was an uncouth vagrant and strolling bedlamite; in 1802 he would have been a pedestrianising gentleman.

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