3

CULTURE ON THE GROUND

THE WORLD PERCEIVED THROUGH THE FEET

> Is it not truly extraordinary to realise that ever since men have walked, no-one has ever asked why they walk, how they walk, whether they walk, whether they might walk better, what they achieve by walking, whether they might not have the means to regulate, change or analyse their walk: questions that bear on all the systems of philosophy, psychology and politics with which the world is preoccupied?
>
> Honoré de Balzac (1938 [1833]: 614)[1]

On the rise of head over heels

In the course of human evolution, three developments took place that have made us creatures of a kind recognisably distinct from even our closest cousins among non-human primates, the great apes. The first was the enormous enlargement of the brain, especially the frontal regions. Compared with other mammals, the human brain is pretty large; compared with what would be expected for mammals of our size, it is massive. The second was the remodelling of the hand, and above all the development of that special ability we have of being able to bring the tip of the thumb into contact with the tips of any of our other fingers – an ability that allows us to carry out manual operations with a versatility and dexterity unequalled in the animal kingdom. The third consisted of a suite of anatomical changes – the rebalancing of the head upon the neck, the characteristic S-shaped curvature of the back, the broadening of the pelvis and the straightening of the legs – that underlie our ability to stand upright and to walk on two feet. In the second of his three essays on *Man's Place in Nature*, published in 1863, T. H. Huxley illustrated these changes through a comparison of the skeletons of the gibbon, the orang-utan, the chimpanzee, the gorilla and the human being (Figure 3.1). There is an engaging liveliness about this depiction: the human skeleton seems to be lightly stepping towards you, and preparing to shake you by the hand. Nevertheless the picture has been deliberately constructed to tell a story, one that has entered the textbooks and been retold on countless occasions ever since. It is the story of how man's eventual achievement of upright posture laid the foundations for his pre-eminence in the animal kingdom, and for the growth of culture and civilisation. In the

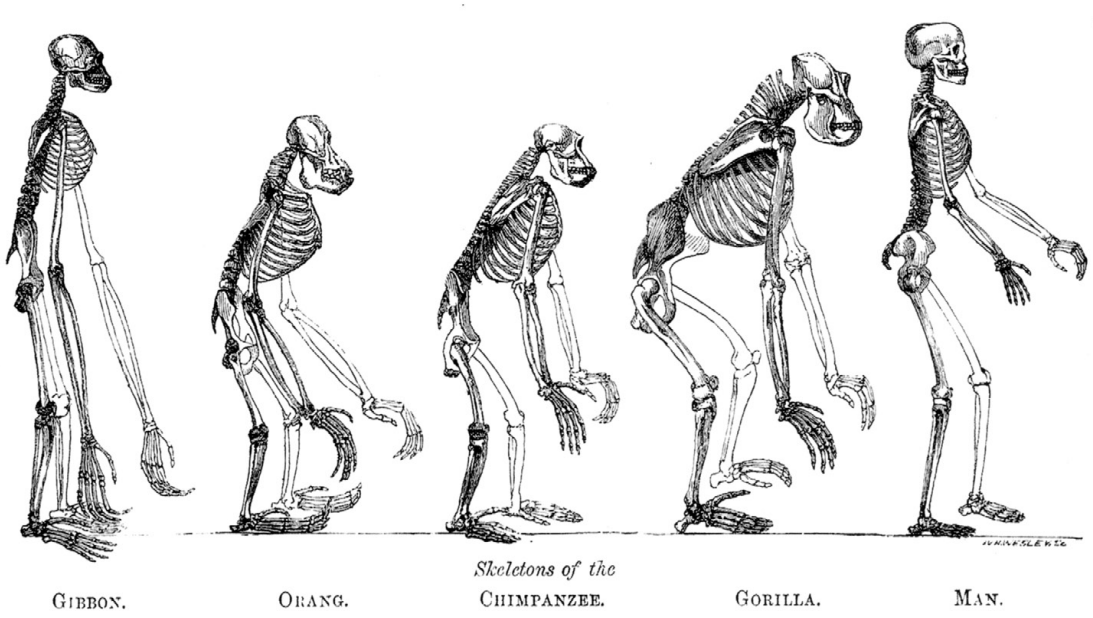

FIGURE 3.1 Skeletons of the gibbon, orang-utan, chimpanzee, gorilla and man, drawn from specimens in the Museum of the Royal College of Surgeons. Reproduced from Huxley (1894: 76).

picture, man marches confidently into the future, head high, body erect, while the stooping apes trundle along obediently behind (Huxley 1894: 76).

But if it was by standing up straight that our ancestors embarked upon the road to civilisation, it was not – according to this story – their feet that brought them there. It was their hands. In *The Descent of Man*, Charles Darwin drew particular attention to what he called the 'physiological division of labour' by which feet and hands came to be perfected for the different but complementary functions, respectively, of support and locomotion, and of grasping and manipulation. In apes this division was but imperfectly established, for while the feet, blessed with toes far more dextrous than ours, retained considerable powers of prehension, the hands continued to play a significant supportive role. By contrast the human foot, with its relatively immobile big toe, has all but lost its original prehensile function, becoming little more than a pedestal for the rest of the body, while all the important work of holding, feeling and gesturing is delegated to the hands. It must have been of great advantage to man, Darwin reasoned, 'to stand firmly on his feet', since this would have left the hands and arms free for the essential arts of subsistence and survival (Darwin 1874: 77). Above all, bipedal posture liberated the hands for the use and manufacture of tools. And it was the selective advantages conferred by tools, according to Darwin, that ultimately set up the conditions for the enlargement of the brain. The argument ran that the 'most sagacious' of individuals, having bigger and better brains, could design the most ingenious tools and use them to greatest effect. This, in turn, would confer a reproductive benefit, ensuring that intelligence-enhancing variations, more abundantly preserved in future generations, would be ratcheted up in the course of natural selection. Every incremental increase would lead to yet further advance in the technical sphere, and so on through mutual reinforcement (ibid.: 196–197).

Darwin's account, it must be said, did little more than embellish an old story with a newly conceived mechanism – that of natural selection – to drive it along. The idea that bipedal locomotion liberates the hands, and furthermore that the free hand endows human beings with an intellectual superiority over all other creatures, can be traced back to classical Antiquity. It is to be found in the writings of Xenophon, Aristotle, Vitruvius and Gregory of Nyssa, and was already commonplace among naturalists of the eighteenth and early-nineteenth centuries (Stoczkowski 2002: 87–88). Somewhat controversially, however, Darwin insisted that human superiority was not of kind but only of degree. The rudiments of intelligence, he claimed, can be found in the lowliest of animals, such as the humble earthworm (Reed 1982), while even the most civilised of men have not altogether escaped the determinations of instinct. As creatures advance along the scale of nature, the proportion of rational intelligence to natural instinct very gradually increases, but only with the emergence of humanity does the balance tip decisively towards the former (Darwin 1874: 98ff.). For Darwin, then, the descent of man *in* nature was also an ascent *out* of it, in so far as it progressively released the powers of intellect from their bodily bearings in the material world. Human evolution was portrayed as the rise, and eventual triumph, of head over heels.

This immediately enables us to make sense of Darwin's remarks concerning the relative significance of the hands and the feet. Unlike the quadruped, with four feet planted solidly in the ground of nature, the biped is held down only by two, while the arms and hands, released from their previous functions of support and locomotion, become answerable to the call of reason. Marching head over heels – half in nature, half out – the human biped figures as a constitutionally divided creature. The dividing line, roughly level with the waist, separates the upper and lower parts of the body. Whereas the feet, impelled by biomechanical necessity, undergird and propel the body *within* the natural world, the hands are free to deliver the intelligent designs or conceptions of the mind *upon* it: for the former, nature is the medium through which the body moves; to the latter it presents itself as a surface to be transformed. And in this potential for transformation, inherent in the coupling of hands and brain, lie the conditions for man's mastery and control over his material environment. 'Man could not have attained his present dominant position in the world without the use of his hands', says Darwin, 'which are so admirably adapted to act in obedience to his will'. He goes on to cite with approval the words of Sir Charles Bell, professor of surgery at the University of Edinburgh, from his Bridgewater Treatise of 1833. 'The hand supplies all instruments, and by its correspondence with the intellect gives [man] universal dominion' (ibid.: 76–77).

Boots and shoes

I shall return to Sir Charles in another connection, but at this point I want to pick up another strand in Darwin's discussion of the division of labour between hands and feet. Presented in an offhand manner, almost as an afterthought, it is of major significance for my argument. Having remarked upon the specialisation of the foot for support and locomotion, and the corresponding loss of its original grasping function, Darwin notes that 'with some savages … the foot has not altogether lost its prehensile power, as shown by their manner of climbing trees, and of using them in other ways' (ibid.: 77). He does not take the point further; indeed it must have seemed to him more or less self-evident. As the savage was regarded as anatomically intermediate between the ape and the civilised human, it would stand to reason that his feet would retain some vestiges of the ape-like form. T. H. Huxley,

however, has rather more to say on the matter. He, too, observes that primitive people seem able to do things with their feet – his examples are rowing a boat, weaving cloth, and even stealing fishhooks – that might strike us civilised folk as extraordinary. But rather than being a function of their innate anatomical endowment, might this not have more to do with their habit of going barefoot? 'It must not be forgotten', Huxley warns us, 'that the civilised great toe, confined and cramped from childhood upwards, is seen to a great disadvantage, and that in uncivilised and barefooted people it retains a great amount of mobility, and even some sort of opposability' (Huxley 1894: 119). Paradoxically, it seems that with the onward march of civilisation, the foot has been progressively *withdrawn* from the sphere of operation of the intellect, that it has regressed to the status of a merely mechanical apparatus, and moreover that this development is a consequence – not a cause – of technical advance in footwear. Boots and shoes, products of the ever more versatile human hand, imprison the foot, constricting its freedom of movement and blunting its sense of touch.

Edward Tylor, in his *Anthropology* of 1881, takes these observations one step further. In order to make the now familiar point that the differentiation between the hand and foot is so much greater for the human than it is for the ape, he presents us with a picture in which the hand and foot of the chimpanzee, and of man, are placed side by side (Figure 3.2). But he hastens to add that the drawing of the human foot 'is purposely taken, not from the free foot of the savage, but from the European foot cramped by the stiff leather boot, because this shows in the utmost way the contrast between ape and man' (Tylor 1881: 43). The qualification is remarkable, since it amounts to an admission that the ideal-type human being, the gold standard against which similarities and differences between humans and apes are to be gauged, is one that has to a significant degree been forced into shape through the artificial application of a restrictive technology. Like Huxley, Tylor is able to come up with examples, albeit anecdotal, of the dexterity of the barefoot savage. 'With the naked foot, the savage Australian picks up his spear, and the Hindu tailor holds his cloth as he squats sewing.'[2] The boot-wearing European, Tylor admits, is helpless by comparison. His foot, the one illustrated in the picture, is nothing more than a 'stepping-machine'. Like Darwin before

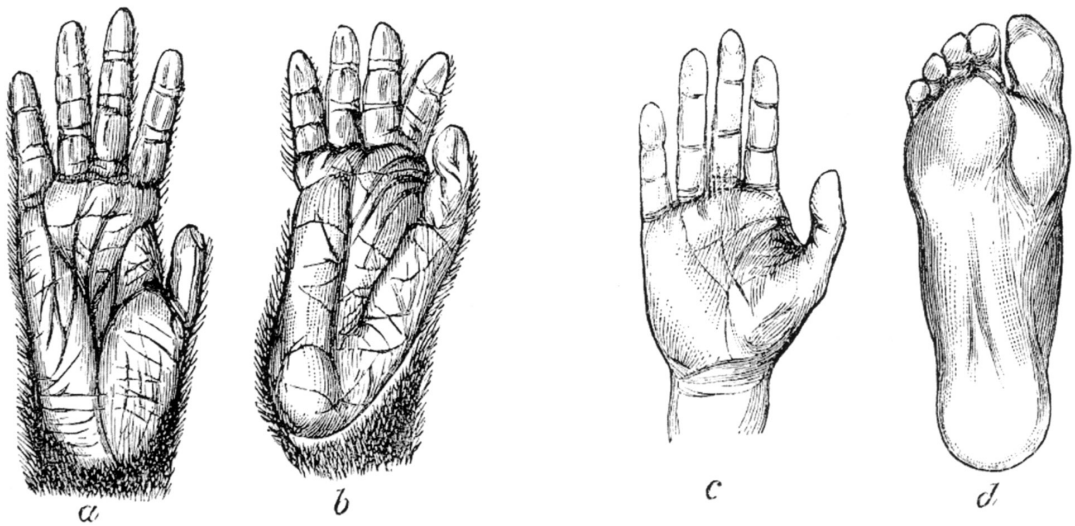

FIGURE 3.2 Hand (a) and foot (b) of chimpanzee; hand (c) and foot (d) of man. Reproduced from Tylor (1881: 42).

him, and of course Sir Charles Bell, Tylor was convinced that man's intellectual development was gained by the use not of his feet, but of his hands. 'From handling objects, putting them in different positions, and setting them side by side, he was led to those simplest kinds of comparing and measuring which are the first elements of exact knowledge, or science' (ibid.: 43–44). Thanks to his hands and his heavy boots the civilised man, it seems, is every inch a scientist on top, but a machine down below.

The effects of the boot on the anatomy and function of the foot were already well recognised by the time that Darwin, Huxley and Tylor were writing. In 1839 a paper was read before the Society of Arts for Scotland entitled 'Observations on Boots and Shoes, with reference to the Structure and Action of the Human Foot'. The author, a certain James Dowie, presented himself to the Society as the inventor, patentee and manufacturer of boots and shoes with elastic soles.[3] Explaining the advantages of his invention, Dowie drew attention to some remarks of Sir Charles Bell, the Edinburgh surgeon to whom I have already referred, in which he compares the Irish agricultural labourer, travelling to harvest barefoot, and the English peasant whose foot and ankle are tightly laced in a shoe with a wooden sole. Look at the way the Englishman lifts his legs, observed Bell, and you will perceive 'that the play of the ankle, foot, and toes, is lost, as much as if he went on stilts, and therefore are his legs small and shapeless' (cited in Dowie 1839: 406). Indeed, Bell was much in favour of James Dowie's patent elastic boots and shoes, going so far as to provide a public testimonial in which he not only affirmed the correctness of Dowie's understanding of the anatomical details, but also declared himself a highly satisfied user. 'I have worn your shoes with pliant soles', he wrote, 'and … find them pleasant and easy to the foot.' Yet for all that, the well-heeled of the western world have continued to strut about, in Bell's graphic phrase, 'as if on stilts', often to their considerable discomfort. To the affluent, the constriction of the feet remains as sure a mark of civilisation as the freedom of the hands. Is the conventional division of labour between hands and feet, then, as 'natural' as Darwin and his contemporaries made it out to be? Could it not be, at least in some measure, a result of the mapping, onto the human body, of a peculiarly modern discourse about the triumph of intelligence over instinct, and about the human domination of nature? And could not the technology of footwear be understood, again in some measure, as an effort to convert the imagined superiority of hands over feet, corresponding respectively to intelligence and instinct, or to reason and nature, into an experienced reality?

Leaving the ground

In what follows I shall argue that the mechanisation of footwork was part and parcel of a wider suite of changes that accompanied the onset of modernity – in modalities of travel and transport, in the education of posture and gesture, in the evaluation of the senses, and in the architecture of the built environment – all of which conspired to lend practical and experiential weight to an imagined separation between the activities of a mind at rest and a body in transit, between cognition and locomotion, and between the space of social and cultural life and the ground upon which that life is materially enacted. I begin with travel. What is of interest here is the way in which, in Britain and Europe from around the eighteenth century onwards, the business of travel came to be distinguished from the activity of walking. For most people in the British Isles, before the days of paved roads and public transport, the only way to get about was on foot. Walking was a mundane, everyday activity, taking

them to work, market and church, but rarely over any great distance. Walkers did not travel. But by the same token, as Anne Wallace (1993) has shown in her fine study of the place of walking in English literature, travellers did not walk. Or rather, they walked as little as possible, preferring the horse or carriage, even though neither was much faster in those days, or any more comfortable (Jarvis 1997: 20–22). Travel was an activity of the well-to-do, who could afford such things. They considered walking to be tedious and commonplace, a view that lingers in the residual connotations of the word 'pedestrian'.[4] If they *had* to walk, they would do their best to blot the experience from their memories, and to erase it from their accounts.

The affluent did not undertake to travel for its own sake, however, or for the experience it might afford. Indeed the actual process of travel, especially on foot, was considered a drudge – literally a *travail* – that had to be endured for the sole purpose of reaching a destination (Wallace 1993: 39). What mattered was the knowledge to be gained on arriving there. Thus Samuel Johnson, relating his journey with James Boswell to the Western Isles of Scotland, recommended travel as the only way to test the conceptions we may have of places and landscapes against objective realities, and promptly went on to describe the view from a resting place in a beautiful mountain valley where he first had the idea of writing his narrative (Johnson and Boswell 1924: 35). His interest lay in the scene around him at that spot, not in how he came to it, about which he had virtually nothing to say. For men like Johnson, a trip or tour would consist of a series of such destinations. Were the experience of place-to-place movement to intrude overmuch into conscious awareness, they warned, observations could be biased, memories distorted and, above all, we might be distracted from noticing salient features of the landscape around us. Thus on a visit to the island of Ulinish, Johnson complains that his appreciation of a natural arch in the rock would have been greater 'had not the stones, which incumbered our feet, given us leisure to consider it' (ibid.: 67). Only when the mind is set at rest, no longer jolted and jarred by the physical displacements of its bodily housing, can it operate properly. As long as it is in between one point of observation and another, it is effectively disabled.

So it was that the elites of Europe – at least from the eighteenth century – came to conduct and write about their travels as if they had no legs. Skimming across the surface of the country, they would alight, here and there, to admire the view. The embodied experience of pedestrian movement was, as it were, pushed into the wings (Certeau 1984: 121), in order to make way for a more detached and speculative contemplation. Walking was for the poor, the criminal, the young, and above all, the ignorant (Jarvis 1997: 23). Only in the nineteenth century, following the example set by Wordsworth and Coleridge, did people of leisure take to walking as an end in itself, beyond the confines of the landscaped garden or gallery. For them pedestrian travel became, in the words of Rebecca Solnit, 'an expansion of the garden stroll' (Solnit 2001: 93). Yet the rise of the practice and theory of walking as an inherently virtuous and rewarding activity, despite presenting an apparent challenge to earlier ideas of destination-oriented travel, actually depended on material improvements in transport that greatly increased the volume of such travel, and extended its range and possibility (Wallace 1993: 65–66). For one thing, as public transport came to be affordable to ordinary working people, walking figured as a matter of choice rather than necessity, and the stigma of poverty formerly attached to its practitioners faded away (Urry 2000: 51). And for another thing, transport could take people to the places – the scenery – within and around which they wanted to walk. Thus the entire landscape became the destination at which one had arrived from the very moment of setting out on foot (Solnit 2001: 93).

If you could choose to walk, however, as well as select for yourself the places where your stroll or hike would begin or end, then the alternative must always have been available of sitting down, whether your seat be immobile or attached to a moving vehicle. Thus the most enthusiastic of peripatetics, even while extolling the physical and intellectual benefits of walking, did so from the comfortable vantage point of a society thoroughly accustomed to the chair. In the history of the western world, chairs made their first appearance as seats of high authority and did not come into widespread use, even in the most wealthy of houses, until around the sixteenth century. The 'sitting society' to which we are so accustomed today is largely a phenomenon of the last two hundred years (Tenner 2003: 105). It is probably no accident, nevertheless, that the civilisation that gave us the leather boot has also come up with the upholstered chair. Of course, human beings do not *need* to sit on chairs, any more than they need to clad their feet in boots and shoes. As the designer Ralph Caplan wryly remarks, 'a chair is the first thing you need when you don't really need anything, and is therefore a peculiarly compelling symbol of civilisation' (Caplan 1978: 18). Nothing, however, better illustrates the value placed upon a sedentary perception of the world, mediated by the allegedly superior senses of vision and hearing, and unimpeded by any haptic or kinaesthetic sensation through the feet. Where the boot, in reducing the activity of walking to the activity of a stepping machine, deprives wearers of the possibility of thinking with their feet, the chair enables sitters to think without involving the feet at all. Between them, the boot and the chair establish a technological foundation for the separation of thought from action and of mind from body – that is for the fundamental *groundlessness* so characteristic of modern metropolitan dwelling (Lewis 2001: 68). It is as though, for inhabitants of the metropolis, the world of their thoughts, their dreams and their relations with others floats like a mirage above the road they tread in their actual material life. A famous anthropological statement to this effect comes from Clifford Geertz. 'Man', he has declared, 'is an animal suspended in webs of significance he himself has spun.' I think we should perhaps amend this statement, to say that only booted and seated man, artificially insulated – whether in movement or at rest – from direct contact with the ground, would consider himself so suspended (Geertz 1973: 5, see Ingold 1997: 238).

In most non-western societies the usual position of rest to adopt, while awake, is the squat. 'You can distinguish squatting mankind and sitting mankind', wrote the ethnologist Marcel Mauss in his essay on body techniques (Mauss 1979: 113–114). My guess is that squatters still considerably outnumber sitters, despite the export of chairs around the globe. However, for those of us brought up to sit on chairs, to have to squat for any length of time is acutely uncomfortable. It seems that the chair has blocked the development of the normal capacity of the human being to squat, just as the boot has blocked the development of the prehensile functions of the foot. Only with much practice and training can these blockages be overcome. Yet in western societies, where uprightness or 'standing' is a measure of rank and moral rectitude, the squatting position is reserved for those on the very lowest rung of the social ladder – for outcastes, beggars and supplicants. Armed with a battery of devices from high chairs to baby walkers, western parents devote much effort to getting their infants to sit and stand as soon as is physically possible, and worry about any delay in their development.[5] Older children are urged to stand up straight, and to 'walk from the hips' with minimal bending at the knees. To succeed in this, they must be fitted with appropriate footwear. Indeed one of the most essential bodily skills that every child has to master before being able to make his or her way in a boot-clad society such as our own, is the art of

tying shoelaces. With loose shoelaces, the walker can only prevent his shoes from falling off by adopting a shuffling gait that is widely regarded as a mark of impotence, infirmity or decrepitude. He is, moreover, at constant risk of tripping up. I was struck by a radio interview with one of ex-president Slobodan Milosevic's erstwhile friends and supporters, who was describing his circumstances in a Belgrade gaol. Of all the indignities he had to suffer, the interviewee said, the worst was that he had to go around in boots *without laces*.

The historian Jan Bremmer has traced the western ideals of upright posture, and a gait with long measured strides and straight legs, to the culture of ancient Greece, passed on to early modern Europe by way of the works of Cicero, Saint Ambrose and Erasmus. The origin of the Greek gait, Bremmer suggests, lies in an earlier age when every man had to carry arms, and be ready to fight to protect both reputation and possessions (Bremmer 1992: 16–23, 27). In this respect the positioning of the hands is particularly significant. Not only should they be ready for use, held slightly in advance of the trunk (an injunction that translates into contemporary disapproval of standing with one's hands in one's pockets), they should also be downturned. For a man with upturned hands would be one without weapons – one who had, by that token, symbolically abdicated his manhood, presenting himself in an effeminate pose. In addition the free man should keep his head erect, as Bremmer puts it, with 'the eyes openly, steadfastly, and firmly fixed on the world' (ibid.: 23). Now if we return to T. H. Huxley's comparative depiction of man and the great apes, with which I began (Figure 3.1), we find that the man is precisely in the recommended posture of ancient Greece. He is upright, proceeding forward with a measured gait. He is looking directly ahead, not downwards and, sure enough, the palms of his hands are downturned. Indeed, a man he most certainly is. For had the figure been of a woman, following the same conventions, the head and eyes would be downcast, the palms turned upwards, and the step smaller and more nimble.

Anthropologist Junzo Kawada (n.d.) has drawn a fascinating comparison between expected European (or, more particularly, French) ways of walking and carrying things, and those customary in Japan – roughly from the twelfth to the mid-twentieth century. Whereas the European, as I have already observed, walks from the hips while keeping the legs as straight as possible, Japanese people traditionally walked from the knees while minimising movement at the hips. The result is a kind of shuffle, not unlike that of a man who has lost his shoelaces, which to European eyes looks most ungainly. Walking from the knees, however, is very effective on rough or hilly terrain, since with the lowered centre of gravity the risk of tripping and falling is much reduced. It is also ergonomically consistent with the technique, once widely used in Japan, of carrying heavy loads suspended from a long, supple pole resting athwart the shoulder. Kawada is able to relate the postural difference in walking, respectively from the hips and from the knees, not only to alternative methods and devices for load carrying, but also to traditional dance styles, artisanal techniques and practices of child rearing. European dancers aspire to verticality, using their feet like stilts, a posture taken to its most stylised extreme in classical ballet where the female dancer balances on the tips of her toes, arms stretched heavenwards, while her male partner, with his leaps and bounds, temporarily loses contact with the ground altogether. Japanese dancers, by contrast, through flexible movement of the knees, drag their feet across the smooth floor in a shuffling motion, without ever lifting their heels (Suzuki 1986: 6). Again, whereas European artisans (with the singular exception of the tailor) work either standing or seated on a firm, raised support, their Japanese counterparts typically work from a squatting position, which confers no loss of status.

Finally, Japanese parents are glad to see their children crawling everywhere on all fours, displaying none of the anxiety of Europeans who regard crawling as a stage to be superseded as quickly as possible, through rigorous discipline and the use of artificial aids. Tadashi Suzuki, one of the foremost figures in contemporary Japanese theatre, writes with approval of 'the perception that our hands are also our feet', which comes, for example, from cleaning the floor with a polishing rag. A child who experiences this kind of 'floor-cleaning' movement, he observes, 'will understand, even after growing up, that parts of the body other than the feet can have a dialogue with the ground' (ibid.: 21). However, as traditional, wood-floored houses are giving way in Japanese cities to internally carpeted, western-style apartment blocks, in which one resident's floor can be another's ceiling, and in which floors are no longer polished on hands and knees but vacuumed from a standing position, the once strong and positive orientation towards the ground is being eroded. For Suzuki, this is a matter of regret. 'Because wooden hallways and passageways have disappeared', he laments, 'the feet and hands of modern man have been separated from each other; we have forgotten that mankind is one of the animals' (loc. cit.). But what Japanese people may be forgetting only in modern times, has a history of denial in the western world stretching back for over two millennia. Wiktor Stoczkowski has traced the symbolic valorisation of uprightness, still so prominent in palaeoanthropology, in a wealth of classical and early Christian sources: Plato, Xenophon, Aristotle, Pliny the Elder, Vitruvius, Ovid, Cicero, Prudentius and Gregory of Nyssa. The idea expressed throughout is that the human, by standing upright, can gaze heavenwards, know the gods (or God), and exercise dominion over all other creatures (Stoczkowski 2002: 73–74). For these western thinkers, quite unlike their historic Japanese counterparts, the achievement of bipedalism was critical to raising human beings above the threshold of nature and to establishing the superiority of the human condition over that of the animals. The quadruped, in their eyes, was necessarily a being inferior to man.

Walking the streets

The western proclivity to walk as if on stilts has of course been taken to its most absurd extreme in the military drill. This evoked some wry observations from Marcel Mauss, under the heading of 'walking':

> We laugh at the 'goose-step'. It is the way the German army can obtain maximum extension of the leg, given in particular that all Northerners, high on their legs, like to take as long steps as possible. In the absence of these exercises, we Frenchmen remain more or less knock-kneed…
>
> (Mauss 1979: 114–115)

Why do we laugh at the goose-stepping German soldier? Surely it is because his movements are so oddly mechanical. No one naturally walks like that; indeed if they did, they would forever be tripping over things. The goose step is only possible on the artificially monotonous surface of the parade ground.[6] Nevertheless, by public works, most metropolitan societies have transformed their urban spaces into something approximating the parade ground, by paving the streets. In so doing, they have literally paved the way for the boot-clad pedestrian to exercise his feet as a stepping machine. No longer did he have to pick his way, with care and dexterity, along potholed, cobbled or rutted thoroughfares,

littered with the accumulated filth and excrement of the countless households and trades whose business lay along them. Dirt is the stuff of tactile (and of course, olfactory) sensation. It could trip you up, or soil your boots. But as the geographer Miles Ogborn has shown in his study of the paving of the streets of Westminster in the City of London, during the mid-eighteenth century, the construction of pavements offered pedestrians a street surface that was smooth and uniform, regularly cleaned, free from clutter and properly lit. Above all, the streets were made open and straight, creating a fitting environment for what was considered the proper exercise of the higher faculty of vision – to see and be seen (Ogborn 1998: 91–104).

John Gay's satirical poem *Trivia: or, the Art of Walking the Streets of London*, dating from 1716, presents a marvellous account of the pedestrian experience of those days, when the pavers were hard at work. Sensibly, Gay begins with some advice on footwear: 'Let firm, well-hammer'd Soles protect thy Feet' (Gay 1974: 136). And he recognises, too, that if we are to walk without tripping, soiling our clothes, or becoming drenched in water from overhead gutters, we need to mobilise all our senses – of smell and touch as well as vision – especially when out after dark.

> Has not wise Nature strung the Legs and Feet
> With firmest Nerves, design'd to walk the Street?
> Has she not given us Hands, to groap aright,
> Amidst the frequent Dangers of the Night?
> And thinks't thou not the double Nostril meant,
> To warn from oily Woes by previous Scent?
> (ibid.: 167)

Nevertheless, vision remains paramount. A way of walking is recommended, which, while preserving the independence and autonomy of the individual, maintains a constant visual vigilance – not of the ground surface but of *other people*.

> Still fix thy Eyes intent upon the Throng
> And as the Passes open, wind along.
> (ibid.: 160)

This vigilance extends, moreover, to the observance of a certain etiquette. One should make way for ladies, the old and infirm, the blind and lame, and the heavily loaded porter. It is also wise to give a wide berth to those who are liable to cover you with dust, from the toff with his fancy wig to the miller with his bags of flour.

> You'll sometimes meet a Fop, of nicest Tread,
> Whose mantling Peruke veils his empty Head…
> Him, like the *Miller*, pass with Caution by,
> Lest from his Shoulder Clouds of Powder fly.
> (ibid.: 145)

In nearly three hundred years, not much has changed, except that the 'throng' is more intense, you are more likely to find gangs of workmen digging up the streets than laying

pavements, and the greatest threat to those who do not, as Gay puts it, 'maintain the Wall', comes from being driven over by an automobile rather than a horse and carriage.

Some of the most acute observations on walking the streets in a contemporary city come from the sociological writings of Erving Goffman. Indeed he begins his classic study, *Relations in Public*, with a detailed account of how the individual pedestrian, conceived as a pilot encased in the soft shell of his clothes and skin, succeeds in getting around without falling over or bumping into other people (Goffman 1971: 6–7). What is so striking about Goffman's account is that he describes walking, almost exclusively, as a *visual* activity. The pilot is supposed to use his eyes to guide his body about. He does this through a process that Goffman calls 'scanning'. Every individual continually scans or checks out an area that takes the form of an elongated oval, narrow at either side and longest in front. As other people approach, he checks their direction while they are still three or four pavement squares away, making any necessary adjustment in his own path at this stage. They can then be allowed to come nearer without further cause for concern, since any interference at such close range would require them to make a very abrupt turn. In order to maintain his scanning area, the individual may have to angle his head so that his visual field is not blocked by the pedestrian in front. But he also keeps an eye on the faces of those coming towards him, which, rather like a rear-view mirror, reveal in their expressions possible sources of interest and danger that have already passed behind his sight line (ibid.: 11–12). Finally, if the street is so crowded that normal scanning becomes virtually impossible, the individual has resort to a special manoeuvre that Goffman (following an earlier study by Michael Wolff) calls the step-and-slide – 'a slight angling of the body, a turning of the shoulder and an almost imperceptible sidestep' (ibid.: 14). It is, as Goffman notes, thanks to their ability to 'twist, duck, bend and turn sharply' that pedestrians are generally able to extricate themselves at the very last moment from impending impact (ibid.: 8). This advantage is not shared by the motorist nor, in the past, by the horse rider.[7]

What Goffman shows us, through his study, is that walking down a city street is an intrinsically social activity. Its sociality does not hover above the practice itself, in some ethereal realm of ideas and discourse, but is rather immanent in the way a person's movements – his or her step, gait, direction and pace – are continually responsive to the movements of others in the immediate environment.[8] Yet Goffman's walkers, each a 'vehicular unit' comprising the visually guided pilot within a soft bodily shell, still seem somehow detached from the solid ground beneath their feet. They could almost be floating in thin air. Admittedly Goffman does recognise – albeit in passing – that besides scanning for other people, the individual also scans the flooring immediately before him, in order to avoid small obstructions or dirt. Thus 'within the oval scanned for oncomers … is a smaller region that is also kept under eye' (ibid.: 16). There is some evidence that the intensity of the downward scan varies by age and gender, in a way that fully accords with established cultural conventions. Michael Hill, in a review of studies of pedestrian behaviour, reports on a psychological experiment that purported to show that women look down when they walk, more than men. But whether this was because they were walking more slowly and had more time to look, or because they were conforming to rules of female modesty, or because they were wearing dangerously impractical high-heeled shoes, the experimenters could not say (Hill 1984: 9–10). When it comes to children, Michael Wolff notes that city parents are inclined to treat under-sevens as 'baggage', dragged along by the hand rather like a suitcase on wheels. Often the children neither look nor even know where they are going, nor are they looked at by those coming

in the opposite direction. Oncoming pedestrians, it appeared, 'would "sight" the adult and negotiate the right-of-way with him', while ignoring and being ignored by the child whose eyes, besides being at a lower level, would be resolutely downcast (Wolff 1973: 45). The child's-eye view of this has been immortalised in the lines of A. A. Milne:

> Whenever I walk in a London street,
> I'm ever so careful to watch my feet.[9]

The message of these lines is that before a child can begin to negotiate a right of way for himself, in horizontal eye-to-eye contact with others, he has to acquire a complex set of social skills: 'It's ever so portant how you walk' (Milne 1936: 12).

Nowadays, of course, the steadfastly forward-looking urban male is more likely to go by car, the female rather less so. The great majority of journeys by foot are made by children under the age of fifteen (Hillman and Whalley 1979: 34). They are the real walkers of our society. But my point has been that the reduction of pedestrian experience, that has perhaps reached its peak in the present era of the car, is the culmination of a trend that was already established with the boot's mechanisation of the foot, the proliferation of the chair and the advent of destination-oriented travel. I have but one further observation to make in this regard, which brings me back to the subject of paving. It is simply that boots impress no tracks on a paved surface. People, as they walk the streets, leave no trace of their movements, no record of their having passed by. It is as if they had never been. There is, here, the same detachment of persons from the ground that runs, as I have shown, like a leitmotif through the recent history of western societies. It appears that people, in their daily lives, merely skim the surface of a world that has been previously mapped out and constructed for them to occupy, rather than contributing through their movements to its ongoing formation. To inhabit the modern city is to dwell in an environment that is already built. But whereas the builder is a manual labourer, the dweller is a footslogger. And the environment, built by human hands, should ideally remain unscathed by the footwork of dwelling. To the extent that the feet *do* leave a mark – as when pedestrians take short cuts across the grass verges of roads, in cities designed for motorists – they are said to deface the environment, not to enhance it, much as a modern topographic map is said to be defaced by the itineraries of travel drawn upon it (Ingold 2007a: 85).[10] This kind of thing is typically regarded by urban planners and municipal authorities as a threat to established order and a subversion of authority. Green spaces are for looking at, not for walking on; reserved for visual contemplation rather than for exploration on foot. The surfaces you can walk on are those that remain untouched and unmarked by your presence.

Environment, technology, landscape

The groundlessness of modern society, characterised by the reduction of pedestrian experience to the operation of a stepping machine, and by the corresponding elevation of head over heels as the locus of creative intelligence, is not only deeply embedded in the structures of public life in western societies. It has also spilled over into mainstream thinking in the disciplines of anthropology, psychology and biology. I now turn to a brief review of three thematic areas in which this overspill has manifestly occurred. The first concerns the perception of the environment, the second the history of technology, and the

third the formation of the landscape. For each of these areas I ask what the effect would be of overturning prevailing assumptions and of adopting, with the Japanese as described by Kawada, a fundamental orientation towards the ground. What new terrains would be opened up? Here I have more questions than answers, and my purpose in this section is less to state my conclusions than to set an agenda for future research. I shall return in the final section to the theme with which I began, of the evolution of human anatomy.

The perception of the environment

It is almost a truism to say that we perceive not with the eyes, the ears or the surface of the skin, but with the whole body. Nevertheless, ever since Plato and Aristotle, the western tradition has consistently ranked the senses of vision and hearing over the contact sense of touch. I shall not go into the relative standing of vision and hearing, since this is a lengthy and complex story in itself (Ingold 2000a: 243–287). But my first and most obvious point is that a more literally *grounded* approach to perception should help to restore touch to its proper place in the balance of the senses. For it is surely through our feet, in contact with the ground (albeit mediated by footwear), that we are most fundamentally and continually 'in touch' with our surroundings.[11] Of course matters are not quite that simple, for we touch with our hands as well as with our feet. By and large, however, studies of haptic perception have focused almost exclusively on manual touch. The challenge is to discover special properties of pedestrian touch that might distinguish it from the manual modality. Is it really the case for example, as intuition suggests, that what we feel with our hands, and through the soles of our feet, are necessarily related as figure and ground? In other words, is the ground we walk on also, and inevitably, a ground against which things 'stand out' as foci of attention, or can it be a focus in itself?[12] What difference does it make that pedestrian touch carries the weight of the body rather than the weight of the object? And how does the feel of a surface differ, depending on whether the organ of touch is brought down at successive spots, as in plantigrade walking, or allowed to wrap around or slide over it, as can be done with the fingers and palm of the hand? Further questions arise when we consider the involvement of the other senses in pedestrian experience. From Goffman's studies, we can recognise the importance of vision to the walker. But let us not forget the experience of the blind. I wonder whether manual and pedestrian touch are differentiated by blind persons to the same extent or along the same lines as they are by the sighted. Finally, apropos hearing, we should recall the involvement of the ear in maintaining balance, essential for standing and walking, and that persons who are deaf report being able to hear through the feet, provided that they are standing on surfaces, such as floorboards, that conduct vibration.

The bias of head over heels influences the psychology of environmental perception in one other way. We have already seen how the practices of destination-oriented travel encouraged the belief that knowledge is integrated not along paths of pedestrian movement but through the accumulation of observations taken from successive points of rest.[13] Thus we tend to imagine that things are perceived from a stationary platform, as if we were sitting on a chair with our legs and feet out of action. To perceive a thing from different angles, it is supposed that we might turn it around in our hands, or perform an equivalent computational operation in our minds. But in real life, for the most part, we do not perceive things from a single vantage point, but rather by walking around them. As the founder of ecological psychology, James Gibson, argued in his classic work on visual perception, the forms of the

objects we see are specified by transformations in the pattern of reflected light reaching our eyes as we move about in their vicinity. We perceive, in short, not from a fixed point but along what Gibson calls a 'path of observation', a continuous itinerary of movement (Gibson 1979: 195–197). But if perception is thus a function of movement, then what we perceive must, at least in part, depend on how we move. Locomotion, not cognition, must be the starting point for the study of perceptual activity (Ingold 2000a: 166). Or more strictly, cognition should not be *set off* from locomotion, along the lines of a division between head and heels, since walking is itself a form of circumambulatory knowing. Once this is recognised, a whole new field of inquiry is opened up, concerning the ways in which our knowledge of the environment is altered by techniques of footwork and by the many and varied devices that we attach to the feet in order to enhance their effectiveness in specific tasks and conditions. Examples are almost too numerous to mention: think of skis, skates and snowshoes; running shoes and football boots;[14] stirrups and pedals; and of course the flippers of the underwater diver. Nor should we ignore hand-held or underarm devices that aid locomotion such as walking sticks, crutches and the oars of the rowing boat.

The history of technology

This brings me to my second theme. Nothing better exemplifies the assumed superiority of head and hands over feet, in human endeavour, than this wonderfully pithy statement from the *Grundrisse* of Karl Marx. Tools, he says, are 'organs of the human brain, created by the human hand; the power of knowledge, objectified' (Marx 1973: 706). For Marx, history is the process in which human beings, through their labour, have progressively transformed the world of nature and, in so far as they also partake of this world, have also transformed themselves. Recall that in the classic, dualistic view to which Marx fully subscribed, humans are in nature from the waist down, while the hands and arms impress the mind's intelligent designs upon the surface of nature from above. The foot, from this point of view, is not so much empowered by human agency as a force of nature in itself, which – as in numerous treadle-operated machines – may be harnessed to power the apparatus of manufacture. The hand makes the tool; the foot drives the machine. Men have made history with their hands; they have mastered nature and brought it under control. And the nature thus controlled includes the foot, increasingly regulated and disciplined in the course of history by the hand-made technology of boots and shoes.

To overturn the bias of head over heels is also to dispense with the dualism that underpins this argument. Rather than supposing that the hand operates *on* nature while the feet move *in* it, I would prefer to say that both hands and feet, augmented by tools, gloves and footwear, mediate a historical engagement of the human organism, in its entirety, with the world around it. For surely we walk, just as we talk, write and use tools, with the whole body. Moreover in walking, the foot – even the boot-clad foot of western civilisation – does not really describe a mechanical oscillation like the tip of a pendulum. Thus its movements, continually and fluently responsive to an ongoing perceptual monitoring of the ground ahead, are never quite the same from one step to the next. Rhythmic rather than metronomic, what they beat out is not a metric of constant intervals but a pattern of lived time and space. As I shall show in the next chapter, it is in the very 'tuning' of movement in response to the ever-changing conditions of an unfolding task that the skill of any bodily technique ultimately resides (see also Ingold 2000a: 353). I refer there to the example of sawing through a plank

of wood, but the point applies just as well to walking through the terrain. Indeed it could be said that walking is a highly intelligent activity. This intelligence, however, is not located exclusively in the head but is distributed throughout the entire field of relations comprised by the presence of the human being in the inhabited world.

The formation of the landscape

What I have to say regarding my third theme follows from this. In conventional accounts of the historical transformation of nature, the landscape tends to be regarded as a material surface that has been sequentially shaped and reshaped, over time, through the imprint of one scheme of mental representations after another, each reshaping covering over or obliterating the one before. The landscape surface is thus supposed to present itself as a palimpsest for the inscription of cultural form. My argument suggests, to the contrary, that the forms of the landscape – like the identities and capacities of its human inhabitants – are not imposed upon a material substrate but rather emerge as condensations or crystallisations of activity within a relational field. As people, in the course of their everyday lives, make their way by foot around a familiar terrain, so its paths, textures and contours, variable through the seasons, are incorporated into their own embodied capacities of movement, awareness and response – or into what Gaston Bachelard (1964: 11) calls their 'muscular consciousness'. But conversely, these pedestrian movements thread a tangled mesh of personalised trails through the landscape itself. Through walking, in short, landscapes are woven into life, and lives are woven into the landscape, in a process that is continuous and never-ending (Tilley 1994: 29–30).

This idea may sound rather abstract, but can be readily grasped by reflecting on the phenomenon of footprints. 'You know my methods, Watson', says Sherlock Holmes in the case of *The Crooked Man*. 'There had been a man in the room, and he had crossed the lawn coming from the road. I was able to obtain five very clear impressions of his footmarks … He had apparently rushed across the lawn, for his toe marks were much deeper than his heels.'[15] But if Holmes could recognise the man's gait from the patterns of his footprints, and even read off from them something of his intentions, this was not because the gait served to translate from a conception in his mind to an impression on the ground, but because both the gait and the prints arose within the intentional movement of the man's running. He was evidently in a hurry. Of course, as this example shows, pedestrian activities can mark the landscape. When the same paths are repeatedly trodden, especially by heavy boots, the consequences may be dramatic, amounting in places to severe erosion. Surfaces are indeed transformed. But these are surfaces *in* the world, not the surface *of* the world. Human beings live in, not on, the world, and the historical transformations they bring about are – as we saw in Chapter 1 (p. 6) – part and parcel of the world's transformation of itself.

On the evolution of human anatomy

To conclude, let me return to the observations of Darwin, Huxley and Tylor with which I began. Recall that Darwin regarded the relatively prehensile foot of the unshod savage as intermediate between that of the ape on the one hand, and the civilised man on the other. This view is no longer admissible today. We know that the boot-clad European is, genealogically speaking, no further removed from the ape than the barefoot Aborigine. Yet

human feet do indeed vary a great deal, not just morphologically but in the operations they can perform. Describing a group of elderly Marquesan Islanders in his semi-fictional narrative of travel in the South Seas, *Typee* (1846), Herman Melville observed that

> … the most remarkable peculiarity about them was the appearance of their feet; the toes, like the radiating lines of the mariner's compass, pointing to every quarter of the horizon. This was doubtless attributable to the fact, that during nearly a hundred years of existence the said toes had never been subjected to any artificial confinement, and in their old age, being averse to close neighbourhood, bid one another keep open order.
>
> (Melville 1972: 142)

Melville surely allowed himself some licence to exaggerate. Nevertheless there is ample corroborating evidence of a more scientific nature to suggest that the feet of unshod peoples are very differently formed from those of people who are accustomed to wearing shoes of various kinds. Research has shown that 'even the simplest footwear starts to rearrange the bones of those who habitually use it' (Tenner 2003: 58). The fourth and fifth toes of the normally bare foot, according to orthopaedist Steele Stewart (1972), have an unmistakable prehensile curl, and in walking they pick over the ground with almost manipulative precision (Carlsöö 1972: 12). In regular users of footwear – even rudimentary sandals – this trait is less developed. Wearing sandals tends to enlarge the gap between the big and second toe, but in other ways the form of the sandaled foot is closer to that of people who wear shoes, since both sandal and shoe wearers lose the characteristic rolling motion of the bare foot that starts from the heel and runs along its outer edge, ending with the ball of the foot and the toes (Ashizawa et al. 1997).

It is not only the morphology of the booted European foot that is peculiar – in the straightness and parallelism and of the toes, and the lack of space between them. Equally peculiar is the so-called 'striding gait' with which the walkers of western civilisation (especially men) have been enjoined since Antiquity to sally forth into the world, asserting as they go their superiority over subject peoples and animals. In a now classic study, palaeoanthropologist John Napier asserted that the stride 'is the essence of human bipedalism and the criterion by which the evolutionary status of a hominid walker must be judged' (Napier 1967: 117). This reification and universalisation of the striding gait as the quintessential human locomotor achievement betrays an ethnocentrism that, as John Devine shows, has long plagued the literature of human evolutionary biology. In fact, with their oddly formed feet and eccentric gait, 'Westernised men and women … may present us with the exception rather than the rule in the area of locomotor skills' (Devine 1985: 554). It is not just that people around the world walk in all sorts of ways, depending on the surface and contours of the ground, the shoes they are wearing (if any), the weather, and a host of other factors including culturally specific expectations concerning the postures considered proper for people of different age, gender and rank. They also use their feet for sundry other purposes such as climbing, running, leaping, holding things down, picking them up, and even going on all fours. In emphasising these variations, my purpose is not to claim that the feet and gait of the barefoot hunter–gatherer who 'runs, creeps and climbs' (Watanabe 1971) are somehow more 'natural' than those of the striding, boot-wearing European. As Mauss recognised in his essay on body techniques, there is simply no such thing as a 'natural' way

of walking, which may be prescribed independently of the diverse circumstances in which human beings grow up and live their lives (Mauss 1979: 102). But he could just as well have said that every existing technique is as natural as every other, in that it falls within the range of possibility and comes as second nature to its practitioners.

What would certainly be unnatural, however, and beyond the realm of possibility, would be for any human being to spend his or her life, when not sitting or lying down, either standing bolt upright on one spot, like a statue, or striding about without carrying any significant load on a hard level surface. The western body image, which underwrites so much of the discourse on human anatomical evolution, rests on an ideal that is practically unattainable outside the highly artificial setting of the laboratory. Yet it is in such laboratory settings that most systematic studies of bipedal locomotion have been carried out (Johanson 1994). These studies are often illustrated with pictures of more or less naked figures pacing a bare floor.[16] It is as though, by stripping the body of all appurtenances and the ground of all features, the universal essence of human walking will be revealed in a form untrammelled by the particularities of environment and culture. In truth, however, there is no such essence. For the experimental subjects of gait analysis already bring with them, incorporated into their very bodies, the experience of architecture, dress, footwear and baggage drawn from life outside the laboratory. Many of the earliest subjects to be roped into locomotion research were in fact soldiers, already trained in the routines of the drill. It is hardly surprising that when commanded to walk they stepped out as if on parade! As Mary Flesher (1997) has shown, the scientific study of human locomotion has its roots in military discipline.

We cannot, then, attribute bipedality to human nature, or to culture, or to some combination of the two. Rather, human capacities to walk, and to use their feet in countless other ways, emerge through processes of development, as properties of the systems of relations set up through the placement of the growing human organism within a richly textured environmental context. As psychologist Esther Thelen and her colleagues have shown in their studies of infant motor development, it is not possible to characterise 'bipedal locomotion' in isolation from the real-time performance of the manifold pedestrian tasks with which we have grown up (Thelen 1995: 83). In what sense, then, can we speak of the evolution of the human foot, or of bipedalism as a distinctively human achievement? If by evolution we mean differentiation and change over time in the forms and capacities of organisms, then we must surely admit that as fully embodied properties of the human organism, these traits have indeed evolved. We cannot, however, understand this evolution in terms of the genesis of some essential body plan, given for all humans in advance of the conditions of their life in the world, to which particular inflections are added by dint of environmental and cultural experience. For no such plan exists. There is no standard form of the human foot, or of bipedal locomotion, apart from the forms that actually take shape in the course of routine pedestrian operations. Two points of capital importance follow. First, an explanation of the evolution of bipedality has to be an account of the ways in which the developmental systems through which it emerges are reproduced and transformed over time. And secondly, by way of their activities, their disciplines and their histories, people throughout history have played – and continue to play – an active role in this evolutionary process, by shaping the conditions under which their successors learn the arts of footwork. Thus the evolution of bipedality continues, even as we go about our business on two feet. We have been drawn, in sum, to an entirely new view of evolution, a view that *grounds*

human beings within the continuum of life, and that situates the history of their embodied skills within the unfolding of that continuum.

… and finally

The philosopher Jacques Derrida wondered how there could be a history or a science of writing, when the practice of writing is already implicated in the ideas of history, and of science (Derrida 1974: 27). For my part I wonder how there could be a cultural history of bodily techniques when the technology of footwear is already implicated in our very ideas of the body, its evolution and its development. Boots and shoes support our established notions of the body and of evolution, just as writing supports our notions of science and of history. To extricate ourselves from these circularities, we should perhaps take the advice of Giambattista Vico, offered in his *New Science* of 1725. To understand the origins of writing, Vico wrote, 'we must reckon as if there were no books in the world' (1948 §330). To understand the evolution of walking, likewise, we must imagine a world without footwear. For our earliest ancestors did not stride out upon the land with heavy boots, but made their way within it lightly, dextrously, and mostly barefoot.

4

WALKING THE PLANK

MEDITATIONS ON A PROCESS OF SKILL

> Was there ever a bookcase that gave a fraction of the satisfaction as the one fashioned by your own hands?
>
> The Editor, *The Handyman and Home Mechanic*

On sawing a plank

I am making a bookcase from wooden planks. Each shelf has to be cut to the right length. Marking the distance along the plank with a tape measure, I use a pencil and set square to draw a straight line across it. After these preliminaries I set the plank on a trestle, lift my left leg and kneel with as much of my weight as I can upon it, while keeping my balance on the ground with my right foot. The line to be cut slightly overhangs the right end of the trestle. Then, stooping, I place the palm of my left hand on the plank just to the left of the line, grasping it around the edge by the fingers. Taking up a saw with my right hand, I wrap my fingers around the handle – all, that is, except the index finger, which is extended along the flat of the handle, enabling me to fine-tune the direction of the blade (Figure 4.1, top).

Now, as I press down with a rigid arm on the left hand, I engage the teeth of the saw with the edge, at the point where it meets my drawn line, and gently nick the edge with two or three short upstrokes. To guide the saw at this critical juncture, I bend the thumb of my left hand, so that the hard surface of the joint juts out to touch the blade of the saw just above the teeth (Figure 4.1, bottom). Once the slot in the edge is long enough that there is no further risk of the saw jumping out and lacerating my thumb, I can begin to work it with downward strokes. At this point I have to attend more to the alignment of the blade than to the precise positioning of the teeth, in order to ensure that the evolving cut proceeds in exactly the right direction. To do this, I have to position my head so that it is directly above the tool, looking down. From this angle the blade appears as a straight line and I can see the wood on either side of the cut.

The first strokes are crucial, since the further the cut goes, the less room there is for manoeuvre. After a while, however, I can relax my gaze and settle down to a rhythmic up-and-down movement with long, smooth and even strokes. Though delivered to the saw