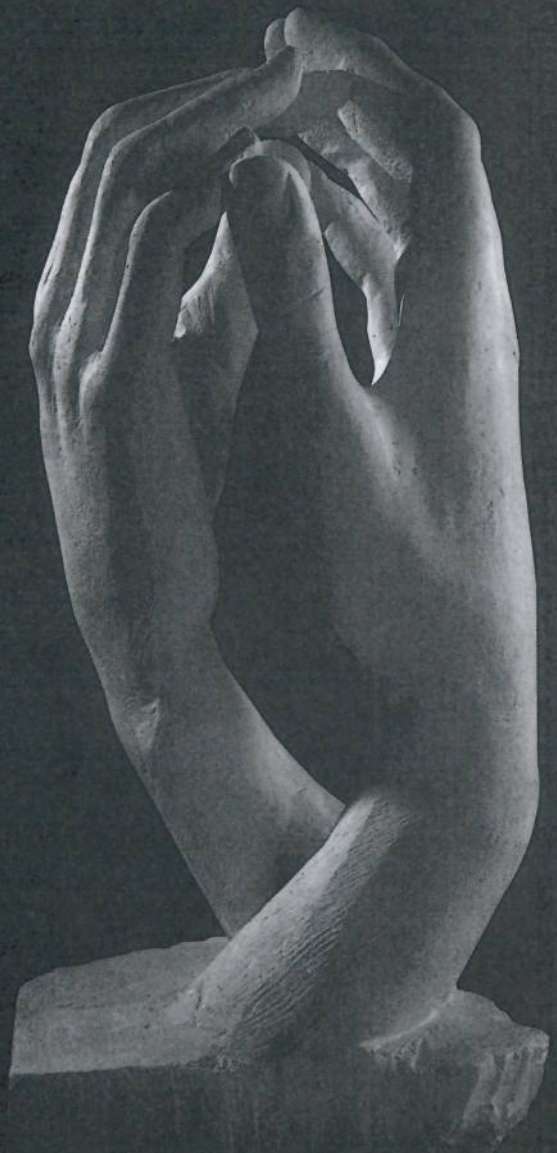
EDITED BY CONSTANCE CLASSEN

THE BOOK OF TOUCH



SENSORY FORMATIONS SERIES

BERG

2

Skinscapes

Embodiment, Culture, and Environment

David Howes

Skin Knowledge

Ichi una, "skin knowledge," the Cashinahua of Eastern Peru call it. It is the knowledge of the world one acquires through one's skin, through the feel of the sun, the wind, the rain and the forest. Skin knowledge is what enables the Cashinahua to find their way through their jungle environment and locate the animals which they hunt for food (Kensinger 1995: 237–45).

Though the Cashinahua concept of skin knowledge is rooted in a particular cultural ethos, many people have thought of the skin as in some way knowing. The nineteenth-century naturalist, Henry David Thoreau, for example, speculated on the existence of such tactile knowledge. His reflections were inspired by his seemingly unconscious ability to find his way home to his cabin in the woods in the dead of night:

> It is darker in the woods, even in common nights, than most suppose. I frequently had to ... feel with my feet the faint track which I had worn, or steer by the known relation of particular trees which I felt with my hands... Sometimes, after coming home thus late in a dark and muggy night, when my feet felt the path which my eyes could not see, dreaming and absent-minded all the way, until I was aroused by having to raise my hand to lift the latch, I have not been able to recall a single step of my walk, and I have thought that perhaps my body would find its way home if its master should forsake it... (Thoreau 1968, II: 188; see further Friesen 2004).

Thoreau's speculations were in line with a longstanding philosophical tradition of attributing some form of intelligence to the sentient body – a tradition stretching back to antiquity. It is only with the rise of body-mind dualism associated with the work of the philosopher René Descartes that such bodily ways of knowing became alien to mainstream Western thought.[1]

Not only the skin, but all of our organs of perception might be said to possess some form of knowledge. The seventeenth-century, anti-Cartesian writer Margaret Cavendish argued that "the Eye is as knowing as the Ear, and the Ear as knowing as the Nose, and the Nose as knowing as the Tongue". "The Heads Braines cannot ingross all knowledge to themselves," she emphatically stated (cited in Classen 1998: 101, see also Anderson 2003). The Cashinahua, who traditionally denied that the brain had any role to play in cognition,[2] recognize, along with skin knowledge, hand knowledge (*meken una*), eye knowlege (*bedu una*), ear knowledge (*pabinka una*), and several other bodily intelligences. The characteristics of a wise person among the Cashinahua encompass the following:

> Their hands know: they are skilled workers. Their skin knows; they have an extensive and intimate knowledge of their physical surroundings. Through the activities of their eye spirits they have knowledge of the spirit world. Knowledge of their mortality and immortality resides in their genitals. Their liver provides them with a full range of emotions. A truly knowledgeable person is one whose whole body knows. (Kensinger 1995: 245)

Such bodily intelligence, it is clear, is not only a matter of physiological data-gathering, but of uniting perceptions with moral and cosmological values.

While knowledge of the world may be said to come from many bodily channels, the sense of touch is a particularly diffuse and varied source of information. A person may be immersed in tactile sensations, enveloped by the wind or by heat, yet at the same time register minute, local perceptions, the tickle of an insect or brush of a leaf. (If sight worked this way we could see the blue expanse of the sky, and at the same time be looking at grains of sand on the ground.) Our environments, whether natural or built, tattoo our skin with tactile impressions. As individuals and as members of societies with particular sensory paradigms, we learn how to value these impressions and how to use them to make sense of ourselves and the world.

The Tzotzil of the Chiapas highlands in Mexico employ their "skin knowledge" to create a thermal geography. East is called "Rising Heat" by the Tzotzil, and West is called "Waning Heat". The highlands in which the Tzotzil live are named "Cold Country," while the warm lowlands are called "Hot Country." This thermal classification extends to the Tzotzil social order, for the most important members of society are symbolically the hottest and occupy the position of "Rising Heat" in community rituals (Classen 2005: 148–52).

In a city like Toronto or Berlin, the opportunity of acquiring skin knowledge of the environment is restricted by a number of factors.[3] For one thing, the urban environment is generally designed so as not to impinge on our skins. We do not push through brush on our way to school or work. Roads and sidewalks are kept clear of obstacles. Only once in a while are we tangibly

reminded of the materiality of the environment, as when we feel the brush of a maverick tree branch or stumble on a curb. Most of our time is not even spent outside. "Outside" is often just a space we go through to get "inside." Our time is largely spent indoors, where architecture and design collude to provide an environment as devoid as possible of tactile stimulation. In the modern university or office building floors and walls are flat and smooth, corridors are clear, the air is still, the temperature is neutral, and elevators carry one effortlessly from one level to another. (In actual fact office buildings may well be cluttered and over-heated or over-cooled, but this is usually regarded as an undesirable deviation from the norm.) It is commonly assumed that we are best served by our tactile environment when we scarcely notice its presence (see Heschong 1990). If the skin is indeed knowing, standard Western interior design does not often give it much to think about.

Perhaps the tactually unengaging nature of much of the modern material world is a product of our arms-length relationship to the environment. In the modern Western city only children (and gardeners) usually have much full bodily contact with the ground. Adults typically perceive the ground as dirty or even contaminating, and therefore limit their contact with it. The ground is only for walking on – with feet encased in shoes – and not for sitting or lying on. If the ground in question is a city sidewalk the assumption is that no one will sit on it but those who have literally reached bottom: the homeless, the intoxicated or the insane. It is only within a limited range of settings, such as the beach or a campsite, that most city-dwellers are able to experience a fuller contact with the earth.

By distancing ourselves from the ground we lose not only the tactile experience of its surfaces, but also other sensations that may be perceived when one has a nose or an ear to the ground. In his book *The Perception of the Environment*, the British anthropologist Tim Ingold introduces one chapter by relating how, when he was a child, a sign at a railway crossing warned him to "stop, look and listen" before crossing the line. As an adult he retains the assumption that this is the only way to tell if a train is approaching, "in the absence of automatic signalling arrangements" (Ingold 2000: 243). When I worked on a railway gang in the mountains of Northern British Columbia one summer many years ago, I learned a different way of telling if a train was coming. One of my co-workers, a Witsuwit'en youth, taught me to always put my ear to the rail before attempting to cross one of the long trestle bridges that spanned the numerous gorges. This practice enabled me to hear and feel a train's approach at a much greater distance than I would have if I'd simply "stopped, looked and listened." This experience indicates the pitfalls of the phenomenological assumption that one's own subjective model of perception is universally valid, and also of relying on signs and texts for comprehensive directions on how to perceive the environment.[4]

While putting an ear to the ground is associated with Native American practice in the contemporary West, it is by no means entirely foreign to

Western tradition. In his reminiscences of William Wordsworth, for example, Thomas de Quincey relates that once when they were waiting on a country road for a coach to come, Wordsworth repeatedly stretched out on the road and pressed an ear to the ground in the hope of catching the distant rumble of wheels. I don't know how indicative Wordsworth's action was of general practice in early nineteenth-century England, but it evidently caused no surprise to De Quincey, as he only mentions it in passing as background information (Stallknecht 1958: 60; discussed in Tuan 1974: 94). Anyone in England today, however, who lay down on the ground to catch the vibrations of a distant bus would likely be thought deranged. Nowadays we may only stand and look and listen.

Modern urban Westerners, hence, are often out of touch with the ground of their existence. No doubt this explains why a scholar such as Ingold is able to produce a 400 page book on the perception of the environment that scarcely discusses tactile (or olfactory or gustatory) perception. However, Westerners do have alternative, mechanized, ways of knowing – automated signal systems – which are enormously important to their understanding of the environment, and which often substitute for direct sensory perception. Indeed it has been argued that the inhabitants of the contemporary West and other "wired" societies have acquired new, electronic, skins, the skins of televisions and computers, which relay information about the world to us (De Kerckhove 1995; Benthien 2000: Chapter 12). Why lie with an ear to the ground when one can connect to the Internet? Though the earth still swells and trembles and brings forth life under our feet, it would seem to be increasingly the electronic environment to which we are attuned.

The Skin of the Earth

In many mythologies around the world one finds the notion that the earth has a body and a skin. In the Andes, for example, understanding the earth as a body dates back to the time of the Incas, when the Inca empire was organized in the form of a body with Cuzco at its navel. The Andeans personify the earth as Pachamama, mother earth, who has rivers for veins and grass for hair. In Andean cosmology the surface of the earth is the middle ground between the upper world of the deities and the underworld of the dead. It is also the symbolic location of the present. The future, dark and fluid, is situated within the earth like an unborn child, and the past is placed in the sky, set in the unchanging stars. To touch the earth's skin is therefore to live in the present (Classen 1993).

Myths and metaphors of the embodied earth flourished in Europe as well surviving into modernity primarily in landscape terminology – the mouth of a river, the foot of a mountain – and poetic usage (Porteous 1990: 73–4). Thoreau, for example, made striking use of a land as body metaphor to describe the hilly landscape near his home in Massachusetts:

> Like the skin of a pard, the great leopard mother that Nature is, where she lies at length, exposing her flanks to the sun. I feel as if I could ... stroke and kiss the very sward, it is so fair. It is homely and domestic to my eyes like the rug that lies before my hearth-side. Such ottomans and divans are spread for us to recline on... The earth lies out now like a leopard, drying her lichen and moss spotted skin in the sun... (Thoreau 1968, XVIII: 97)

Thoreau's reverie emphasizes that skins are for touching and that the skin of earth therefore invites a tactile response. In the realm of myth we have a skin-to-skin relationship with the earth: when we lie on it our skins meet and mingle with the skin of the world.

In the mythic world the earth not only has a body and a skin – it also has feelings and needs. The earth is said to feel the prick of the plow and the stab of the shovel. It must be fed with offerings and fertilized with seeds (see, for example, Bastien 1985). As a body that must be made fruitful, however, myth often depicts the earth as having to be dominated through agriculture. The Incas had a special rite called *hailli* that marked this agricultural dominion, which, in the words of one seventeenth-century native commentator, "means triumph over the Earth, which they plowed and disemboweled so that it should give fruit" (Classen 1993: 57).

As the above examples indicate, the earth's body is often taken to be a female body. This is largely due to common symbolic links between women, nature, home, and property. From a mythic masculine perspective the skin of the earth may evoke all the responses a woman's skin might elicit: the desire to caress, to discipline, to penetrate or to possess. In his late nineteenth-century utopian fantasy *News from Nowhere*, William Morris imagined a post-industrial England inspired by an "overweening love of the very skin and surface of the earth on which man dwells, such as a lover has in the fair flesh of the woman he loves" (Morris 1966: 162). In oft-cited lines from his Elegy XIX, the seventeenth-century poet John Donne reversed the analogy by likening the pleasure of taking possession of a woman's body to the joy of a conqueror acquiring a new kingdom:

> Oh my America! my new-found-land,
> My kingdom, safliest when with one man man'd.
> My Mynne of precious stones, my Emperie,
> How blest am I in this discovering of thee!
> To enter in these bonds is to be free;
> Then where my hand is set, my seal shall be.
>
> (Donne 1971: 105)

Here the conqueror's touch on the yielding, feminine landscape is the sign of his dominion.

In modernity it is often the achievements of technology that are portrayed as having conquered the earth, chaining her verdant body with roads and

railways. For some this conquest is to be deplored, for others, such as the early-twentieth-century Futurists, it is to be celebrated. The Futurists, who decried the romantic exaltation of untouched nature, envisioned modern technology as a force that would remake the body of the earth and give it new vigor:

> Multicolored billboards on the green of the fields, iron bridges that chain the hills together, surgical trains that pierce the blue belly of the mountains, enormous turbine pipes, new muscles of the earth, may you be praised by the Futurist poets, since you destroy the old sickly cooing sensitivity of the earth. (Marinetti 1972: 67–8)

In science the skin of nature is metaphorically laid bare. Thomas Spratt exulted in his seventeenth-century *History of the Royal Society* that, through the operations of science, "the Beautiful Bosom of Nature will be Expos'd to our view" (cited by Classen 1998: 87). After this stripping off of veils from the skin comes the stripping off of the skin itself to peer underneath. Spratt's contemporary, Joseph Glanvill, thus stated that it was through its evisceration that nature would disclose its secrets to the scientist (Merchant 1980: 189).

This notion of nature or of the earth as a body to be anatomized has persisted in modern science. In his book of 1965, *The Skin of the Earth*, geologist Austin Miller states that:

> The anatomy of landscape, like any other anatomy, can only be learnt by careful dissection, limb by limb, organ by organ, following each sinew and nerve with meticulous care. Maps, being man-made, can hardly be said to have an anatomy, but they may be regarded as diagrams of the anatomy of landscape, from which much may be learnt about the carcase itself. (Miller 1965: 5)

In this anatomical model of the landscape, the earth is evidently conceptualized as dead. All that is left is to dissect and classify it, and to transfer the knowledge of its skin onto the portable skins of maps.

The current counterpart to such lifeless paradigms of the earth might seem to be the Gaia hypothesis, which posits the earth and its atmosphere as a complex living organism. Even here, however, the scientist cannot resist the allure of the visual revelations promised by a dissecting touch. In *Gaia's Body* Tyler Volk writes:

> The parts of Gaia might be the largest-scale ecosystems, usually called biomes. This view offers the closest geometric analogy to our bodies. Just as the organs occupy unique locations within us, so the biomes spread across the planet in distinct biographical provinces... This dissection of Gaia into parts has immediate appeal because the viscera of Gaia would then be visual histological regions. (Volk 1998: 95)

These scientific visions of the earth dissected offer a forceful contrast with Thoreau's romantic desire to simply stroke and kiss the skin of the earth.

If science seeks to peel back the skin of the earth, however, technology promises to provide a new skin. This new skin is the web of electronic interchanges spun around the earth's body, which some foresee will function as a multifaceted monitoring device, as indeed, it has already begun to do:

> In the next century, planet earth will don an electronic skin. It will use the Internet as a scaffold to support and transmit its sensations. This skin is already being stitched together. It consists of millions of embedded electronic measuring devices: thermostats, pressure gauges, pollution detectors, cameras, microphones, glucose sensors, EKGs, electroencephalographs. These will probe and monitor cities and endangered species, the atmosphere, our ships, highways and fleets of trucks, our conversations, our bodies – even our dreams. (Gross 1999)

Skinscapes

In many societies the skin of the earth is thought to be replicated in the skins of the individuals who live on it. Just as the landscape may resemble a body, the body may seem like a landscape, with its own hills and valleys and rivers. Comparing the body of a man to the body of the earth, Sir Walter Raleigh wrote in the sixteenth century:

> His blood, which disperseth itself by the branches of veins through all the body, may be resembled to those waters which are carried by brooks and rivers over all the earth, his breath to the air, his natural heat to the inclosed warmth which the earth hath in itself ... the hairs of man's body, which adorne or overshadowe it, to the grass which covereth the upper face and skin of the earth. (cited in Tillyard 1944: 91–2)

In many mythologies the human body itself is said to have originally been made out of earth; at death the body returns to the earth.

Furthermore, the same environmental conditions that shape the land also leave their mark on the skin. This is a distinctive feature of the skin for, while we may perceive aspects of the environment with all of our sensory organs, only the skin can manifest the marks of what it has perceived. The skin may be dried by the sun and roughened by the wind; it bears the scars and bruises of its scrapes and bumps and the imprint of what has pressed into its soft surface, it becomes warm through perceiving warmth and cold through experiencing coldness. On a winter's afternoon, you can tell it is cold outside by touching the skin of your son who has just come indoors; you cannot tell it is white with snow by looking at his eyes. The eyes may see all manner of sights, and show no signs of it. By contrast, the skinscape and the landscape are linked in multiple ways.

In some cultures the identification of the surface of the body with the surface of the earth is subject to extensive cultural elaboration. Among the Walbiri of Australia's Central Desert women ritually embody the landscape by replicating on their own skins the marks made by the Ancestors on the ground when they roamed the world and shaped the landscape during the period known as the Dreaming. By painting these mythic designs on their bodies, Walbiri women re-enact, and thus help to preserve, this original formation of their land (Biddle 2001).

There are also peoples who perceive the earth on which they live to be undesirably soft or unstable or meager, and who seek to cultivate the opposite skinscape from that of the land. The Azawagh Arabs of the Sahara desert traditionally forcefeed their daughters with milk and porridge until they become so fat they can sometimes scarcely walk. (In this society women's work is called "stomach work.") The aim is to achieve a feminine body that is so overflowing with fat that the skin becomes a dress of stretch marks. The plentiful, moist fat of women's bodies contrasts with the flat, dry and lean landscape of the Sahara. Similarly, the women's almost immovable bulk contrasts with the shifting sands, which for months every year are blown about by the wind, blurring the distinction between land and sky. In such an environment the rich moist fat of women and their sturdy solidity provides an alternative landscape, one that does not slip through a man's fingers, but which he can delight in holding and squeezing. Azawagh Arab men, by contrast, are lean like the land in which they live and mobile like the desert sand. And while the desert is not a place of material abundance, it is revered as a site of heightened, predominantly masculine, spirituality (Poponoe 2004).

In the course of my ethnographic fieldwork in the Middle Sepik Region of Papua New Guinea (Howes 2003) I found that the people known as the Kwoma, who inhabit the Washkuk Hills, value some features of their environment and are repelled by others. The Kwoma perceive the swampy lowland as a negative space because of its instability: the ground is soft, rivers and streams constantly overflow their banks, and decay is everywhere. The mountain ridges, on the other hand, are positively valued because of their hardness and stability. It is on the ridges that the Kwoma locate their settlements, which seem to them like small outcroppings of order in a predominantly swampy universe. The geographical values of the Kwoma are also informed by their social history. The Kwoma took the Washkuk Hills by force, and have had to continue to use force to defend their mountain settlements from being overrun by enemy outsiders.

The ideal bodily state for the Kwoma is to be hard, like the hardwood trees that grow on the mountain sides and which they use to build houses. Sickness is thought to be brought on by having a "weak" skin – that is, a skin that is permeable, like the porous ground of the swamp. In order to harden the skin and strengthen their bodily boundaries, the Kwoma men practice

scarification. Scarification brings out ridges on the skin that are rough to the touch, and in a way resemble mountain ridges. These scars are valued as signs of moral as well as physical endurance, and are considered attractive.

Whereas Kwoma men identify themselves with the mountain ridges, they associate women with the swamps. Men's bodies are conceived of as hot and hard like the mountains, women's bodies are thought of as cold and permeable, like the swamps. Just as men avoid contact with the debilitating, engulfing swamps, so also do they avoid contact with women, who are believed to have similar debilitating effects on men. The anthropologist John Whiting, who studied the Kwoma in the 1940s, noted that in their culture a married couple "never sleep in the same bed but lie alone on separate bark slabs, joining only for copulation, which is performed with a minimum of embracing and foreplay" (Whiting 1941: 102). Menstruating women are deemed to be particularly dangerous and swampy, and are not permitted to touch their husbands nor any of the men's personal possessions. The dual geography of the Middle Sepik is hence matched by the dual skinscapes of men and women in Kwoma culture.

For the seagoing inhabitants of the island world of the Massim Region (Milne Bay Province) of Papua New Guinea, by contrast, it is not the landscape that furnishes the model for the human skinscape, but the ocean, which is perceived as an alluring and bountiful expanse. The peoples of the Massim, therefore, prefer to locate their villages not high and dry on the mountains of the interior, but along the coast, where they have access to the sea. In general, while the environment is experienced as invasive in the Middle Sepik, in the Massim it is perceived as expansive, leading one outwards and onwards. Furthermore, whereas the Kwoma are constantly anxious about enemy attacks, the inhabitants of the Trobriand Islands, for example, are more concerned to maintain alliances with distantly situated communities for purposes of exchange and hospitality (Malinowski 1961; see further Howes 2003: 103–8).

The ideal bodily state in the Massim is one of buoyant lightweightness. This state is primarily associated with the experience of lifting over the waves in a canoe. Being on land, by contrast, is associated with a feeling of heaviness and lethargy in the head and limbs, and hence a loss of vitality. In addition to being buoyant, the sea is perceived as smooth and bright. People stroke their faces with mother-of-pearl shell to make them smooth and shiny like the sea, and rub their bodies with coconut oil to keep their skin moist and gleaming. There is no tradition of body scarification, although tattooing is practiced. The fine blue lines of the tattoos accentuate the natural features of the face, but do not disrupt the desirable smoothness of the skin.

Here again, however, there is a division of geographic and tactile values by gender, for while men are associated with the exterior domain of the sea, women are linked with the interior domain of the land, and in particular the house. Men's bodies are conceived of as buoyant and mobile, like boats on the

sea, whereas women, who are supposed to dislike sea travel, and whose bodies grow heavy with child, are identified with the heaviness and immobility of the land (Howes 2003: 70–3). Among the peoples of the Massim, as among the Kwoma and the Azawagh Arabs, the different corporeal values attributed to the bodies of men and women are both reflective and constitutive of the different social position of the sexes. The skinscape is also a genderscape.

Urban Westerners might seem far removed from the lifestyles and world-views of peoples who perceive an intimate relationship between skinscape and landscape. Yet it could be argued that we too model ourselves after or against our material environment. (This may well also be true of urbanized, technologized non-Western societies, but on this I lack both data and experience.) We are perhaps not so likely to think of our bodies as pastoral landscapes irrigated by rivers but we may well think of them as cityscapes, connected by road systems, communications systems and waterworks, and charged by electricity, which at times runs low. Like the Kwoma of Papua New Guinea, we are anxious about the weak spots in our skinscapes and landscapes, fearing the attacks of hostile foreigners and the disintegrating and debilitating effects of pollution.

The founder of the Futurists, F.T. Marinetti foretold that in the coming age "the green beards of provincial back alleys will be shaved clean by the cruel razor of speed" (Marinetti 1972: 108). Just as streets have been shorn of vegetation, men's faces have also become clean shaven. Indeed, it could be said that we urbanites long to be tall and thin like skyscrapers with skin as smooth and ageless as steel and glass. Perhaps relating our bodies to the contrived landscape of the city also encourages us to fashion new corporeal and sexual identities for ourselves and to move away from traditional symbolic dualisms of male and female, land and water, sky and earth. If the city is the work of imagination, technique and will, why not the body? In fact, like our cities, our bodies are increasingly the products of modern technology, repaired and redesigned using synthetic materials. Douglas Porteous suggests in *Landscapes of the Mind* that

> A failure to come to terms with weathering and temporality, whether of human skin or the earth's surface, is responsible for both the current rash of cosmetic surgery and sundry misguided suggestions that we could, by various forms of plastification, preserve essentially temporary geological features for generations of tourists to come. (Porteous 1990: 74)

The hippies of the 1960s and 1970s attempted to counter the stiff artificiality of much of the urban skinscape by experimenting with more "organic" modes of embodiment. They sat on the ground, hugged trees, and danced in the rain, shaggy haired and bare footed, seeking to be in touch with Mother Earth, not realizing that an electronic revolution was under way that would pluck them off the ground and plunk them down in front of glowing

computer screens. As the cultural importance of computers grew in the 1990s it became popular among "cyberpunks" to display a computer aesthetic on their bodies by sporting black clothing, dark glasses, circuit-board jewelry, and wiry hair or smooth-shaven heads. The anticipated next step is when the development of electronic textiles enables our clothes to actually *be* computers. As one writer on the subject notes:

> Computer-enabled fabric would serve as a remarkable interface between ourselves and the environment. Embedded with sensors, clothing could easily alert us to airborne contaminants such as pollen, particulate pollution, carbon monoxide, or worse. Similarly, it could keep track of our health, responding to bodily changes reflecting illness. (Cascio 2004)

Presumably this personal electronic skin would be interconnected with the encompassing electronic skin of the earth. (Interestingly, it does not seem to occur to the writer that we already, in our natural skins, possess "a remarkable interface between ourselves and the environment" that is "embedded with sensors" and responsive to "bodily changes reflecting illness.") Even better than attempting to computerize the body, for some, however, is to put aside one's organic corporeality and manifest a virtual body which matches the virtual landscape of cyberspace (see Foster 1999).

In the twenty-first century it would seem that many people must make their way through several landscapes: electronic, urban, and the old earthy one that persistently breaks through the cracks in the pavement. It remains to be seen whether we will put together a wardrobe of matching skinscapes, a pastiche of tactilities, or whether certain environments will simply become alien to our touch while another becomes a second skin.

Notes

1. This is the received view of Descartes, which is supported by such proclamations as "I shall now close my eyes, I shall stop my ears, I shall call away all my senses" (quoted and discussed by Synnott 1991: 70). As Synnott points out, there were other dimensions to Descartes' scientific practice, just not his philosophy.
2. "Does [the wise man's] brain have knowledge? I asked. "*Hamaki* (it doesn't)," they responded (Kensinger 1995: 280).
3. Richard Sennett would call such cities as Toronto or Berlin "cities which have succumbed to the dominant value of circulation": "Moving around freely diminishes sensory awareness, arousal by places or the people in those places ... to move freely, you can't feel too much" (Sennett 1994: 257).
4. On the perils of phenomenology from the standpoint of the anthropology of the senses see Howes (2003: 236 n4, 239 n6) and Howes (forthcoming).

Bibliography

Bastien, J. (1985), *Mountain of the Condor: Metaphor and Ritual in an Andean Ayllu*, Prospect Heights IL: Waveland Press.

Benthien, C. (2000), *Skin: On the Cultural Border Between Self and the World*, trans. T. Dunlap, New York: Columbia University Press.

Biddle, J. (2001), "Inscribing Identity: Skin as Country in the Central Desert," in S. Ahmed and J. Stacey (eds) *Thinking Through the Skin*, London: Routledge, pp. 177–93.

Cascio, J. (2004), "Another World Is Here: Weaving the Future," www.worldchanging.com.

Classen, C. (1993), *Inca Cosmology and the Human Body*, Salt Lake City: University of Utah Press.

—— (1998), *The Color of Angels: Cosmology, Gender and the Aesthetic Imagination*, London: Routledge.

—— (2005), "McLuhan in the Rainforest: The Sensory Worlds of Oral Cultures," in D. Howes (ed.) *Empire of the Senses: The Sensual Culture Reader*, Oxford: Berg, pp. 147–63.

De Kerckhove, D. (1995), *The Skin of Culture: Investigating the New Electronic Reality*, ed. C. Dewdney, Toronto: Somerville House Publishing.

Donne, J. (1971), *The Complete English Poems*, ed. A.J. Smith, London: Allen Lane.

Foster, T. (1999), "Meat Puppets or Robopaths? Cyberpunk and the Question of Embodiment," in J. Wolmark (ed.) *Cybersexualities: A Reader on Feminist Theory, Cyborgs and Cyberspace*, Edinburgh: Edinburgh University Press, pp. 208–29.

Friesen, V.C. (2005), "A Tonic of Wildness: Sensuousness in Henry David Thoreau" in D. Howes (ed.) *Empire of the Senses: The Sensual Culture Reader*, Oxford: Berg, pp. 251–64.

Gross, N. (1999), "The Earth Will Don an Electronic Skin," *Business Week*, www.businessweek.com.

Howes, D. (2003), *Sensual Relations: Engaging the Senses in Culture and Social Theory*, Ann Arbor MI: University of Michigan Press.

—— (forthcoming), "Scent, Sound and Synaesthesia: Intersensoriality and Material Culture Theory," in C. Tilley *et al.* (eds) *The Sage Handbook of Material Culture*, London: Sage.

Ingold, T. (2000), *The Perception of the Environment: Essays in Livelihood, Dwelling, and Skill*, London: Routledge.

Kensinger, K. (1995), *How Real People Ought to Live: The Cashinahua of Eastern Peru*, Prospect Heights IL: Waveland Press.

Malinowski, B. (1961), *Argonauts of the Western Pacific*, New York: E.P. Dutton.

Marinetti, F.T. (1972), *Marinetti: Selected Writings*, ed. R.W. Flint, trans. R.W. Flint and A.A. Coppotelli, New York: Farrar, Straus & Giroux.

Merchant, C. (1980), *The Death of Nature: Women, Ecology and the Scientific Revolution*, San Francisco CA: Harper & Row.

Miller, A. (1965), *The Skin of the Earth*, London: Methuen & Co.

Morris, W. (1966), *News from Nowhere*, London: Monthly Review Press.

Poponoe, R. (2004), *Feeding Desire: Fatness, Beauty, and Sexuality Among a Saharan People*, London: Routledge.

Porteous, J.D. (1990), *Landscapes of the Mind: Worlds of Sense and Metaphor*, Toronto: University of Toronto Press.
Sennett, R. (1994), *Flesh and Stone: The Body and the City in Western Civilization*, New York: W.W. Norton.
Stallknecht, N. P. (1958), *Strange Seas of Thought*, Bloomington IN: Indiana University Press.
Synnott, A. (1991), "Puzzling Over the Senses: From Plato to Marx," in D. Howes (ed.) *The Varieties of Sensory Experience*, Toronto: University of Toronto Press, pp. 61–76.
Thoreau, H.D. (1968), *The Writings of Henry David Thoreau*, New York: AMS Press.
Tillyard, E.M.W. (1944), *The Elizabethan World Picture*, New York: Vintage.
Tuan, Y.-F. (1974), *Topophilia: A Study of Environmental Perception, Attitudes, and Values*, Englewood Cliffs NJ: Prentice-Hall.
Volk, T. (1998), *Gaia's Body: Toward a Physiology of Earth*, New York: Copernicus.