

I have seen the future and it walks among us. It's a future where the body is endlessly inscribed and re-inscribed, like a ram cartridge it is perpetually written over (fig. 1). A future where natural imperatives are no longer accepted as hard wired – don't like your gender, no problem, gender reassignment, don't like your color, no problem, acid peels and cosmetic surgery will take care of that (fig. 2). A future where nanotechnology holds out the promise of reversing cellular decay and holding off necrobiosis or cell death perhaps forever. A future where competitive edge is no more than a brain implant that you clip into snug contact with your central nervous system for instant fluency in a language you've never heard, for expert systems knowledge in a new technology and best of all, for a new personality.

Yet while cheapness, miniaturization and incorporation characterize the technical invasion of our bodies, we have an ever increasing desire to protect and connect with the nature outside. The natural environment has never been such a focus of political attention as it has been at the end of this century (fig. 3). Recycling has turned myriad's of urban and suburban dwellers into environmental activists. In New York, the most important aspect of recycling is not whether or not we find a commercial use for our neatly separated piles of car tires, clear glass and uncoated paper before we run out of room to store them, but that in the middle of this island metropolis, in our every day we feel connected to nature – whether it is part of our psychological recreation or part of our democratic participation, we are saving our planet for our descendants. We are actively enjoying nature. We are the ancestors of the green cyborg.

The Biophilia Hypothesis posed by two Harvard scientists, claims that genetically we are predisposed toward nature (fig. 4). That whether we embrace the wilderness on the weekend or attempt a completely synthetic existence, we are responding to a genetic code laid down over the millennia that links us in a fundamental way to nature. A nature that is increasingly difficult to identify.

Le Corbusier's reverence for nature was exposed by his tree worship (fig. 5). He said, "trees are the friends of man, symbols of every organic creation, a tree is an image of a complete construction." Nature, being in his mind a mathematical order was relegated to the plazas and random balconies of the Radiant City (fig. 6).

This tree has now become an isolated relic on the entrance plaza of the Nichi Corporation headquarters in Tokyo (fig. 7). The roots exposed as if the earth were too expensive now to waste, suspended like an icon as evaporated moisture and nutrients are fed to it through a mechanical life support humidifier, in a gesture of the corporations complete lease-hold over nature. Architecture con-

suming nature. This image is dominant throughout Le Corbusier's volumes (fig. 8, 9, 10). The submarine conquering the oceans, the air plane conquering the heavens, the car conquering the horizon. This attitude to technology relied on getting bigger, faster and stronger.

The membrane between these two adversaries is today permeable, vanished in a complex web of artificial hybrids. The silicone motherboard is transforming into a test tube of DNA. Dr. Leonard Alderman used DNA to make a biological computer that can compute billions of equations simultaneously. It solved a problem in a week that would take years for the largest silicone computer to compute. In molecular biology, DNA has been artificially manipulated to create, change, re-program living things to make them work better. Richard Dawkins, an evolutionary biologist suggests that the boundaries between natural evolution and artificial evolution are themselves artificial. Artificial life is the flip side of computational biology, where researchers see life as simply an informational process that can be ported from one matrix to another, whether carbon or silicon. Computational pioneers actively explore software that breeds software. In Dawkins opinion, nature – not rational cognitive planning – is the guiding force for the next generation of software solutions. Dawkins further suggests that human evolution is now inextricably bound with technical evolution. Not only does the body of an organism march to the orders of it's genes but so does the artifacts the organism builds or uses. Therefore humankind is co-evolving with its artifacts, with its technology.

(fig. 11) The body which now roams the wilderness has been bulked, waifed, pierced, tucked, injected, peeled and branded. The body is hybrid. Struggling with it's physicality, melding the body with technology is not always seamless. An elite club of American body builders can testify to the side effects of skyrocketing testosterone levels brought on by steroid addiction.

Former Mr. Universe, Steve Michalik recalls, "One of my friends in the business, a former Mr. America, used to get so horny on tour that he'd fuck the Coke machine in his hotel. Swear to God, he'd stick his dick right in the change slot and bang it for all it was worth... He fucked those machines from coast to coast, and even had ratings for them. I seem to remember the Chicago Hyatt's being pretty high up there."

While Mr. America finds intimacy with the logo clad vending machine, reproduction is still elusive. As Donna Haraway said, "Our machines are disturbingly lively and we ourselves are frighteningly inert."

However we have already created a community of cyborgs freed from the frailties of the flesh. Fat, acne, bad eyes, creaky joints are all left behind

once we launch into net space. Within electronic space the tyrannies of race, sex and distance dissolve and we all become angels of the ether, pure immaterial souls. Where quick typing and good writing are the only equivalents of good legs and lubricated pistons in the physical realm. Where flame wars (on-line arguments that get out of hand) are resolved in back alleys or at worst by an administrator's keystroke terminating the transient identity of the cybnaut, canceling the account – no loss of life.

Before we completely disembodiment let's go back to our search for nature. As we have dissolved the distinction between the natural and the artificial within the body, we must abandon these distinctions on the outside. Therefore defining nature is illuminating the hybrid, describing the mixture, celebrating the permeability.

Once again the chemical mixture of the atmosphere and the oceans have changed. This time it has taken place within a century and by our industrialization. We have touched irretrievably every part of our planet. The notion that nature is a part from our existence, the other, the unknown is flawed. Placing value on that natural ideal is mere nostalgia for a nature that can be seen from a far.

(fig. 12) Perhaps as a final desperate act, NASA is currently launching 17 spy satellites to glimpse the failing light of earth's wilderness. Called, the Mission to Planet Earth, the satellites are to collect information on the eco-systems and weather patterns of the earth. As if by creating an enormous digital archive of images from our wilderness, we can discard the original and ferment future answers still locked deep within the rain forests, from within our vast computer data banks.

But like technology, the wilderness has receded from view, and has set about invading our desktops, our domesticity, our streets, our cities, our everyday.

In fact the reality has always been this way. Invisible invertebrates make up 90% of the earth's biodiversity. And it is this diversity that Arne Naess in the 1970's found the value of nature. Meaning in nature only exists within its ecology, that is within the complexity of its systems. Understanding nature as systems not only incorporates non-living things, like rocks, rivers and watersheds, but also technology and machines. The focus moves from object to process. Privileging systems defies boundaries between artificial and natural, between the interiority of our body to the exteriority of the wilderness. It is systems which flow through bodies, through environment that link them inextricably. This prioritizes flow, transition, and action. It is the juxtaposition of systems that weave the complexity inherent in biodiversity. The same vortex that defines the energy within our cities, streets and homes.

Therefore, for our architecture to peel back the

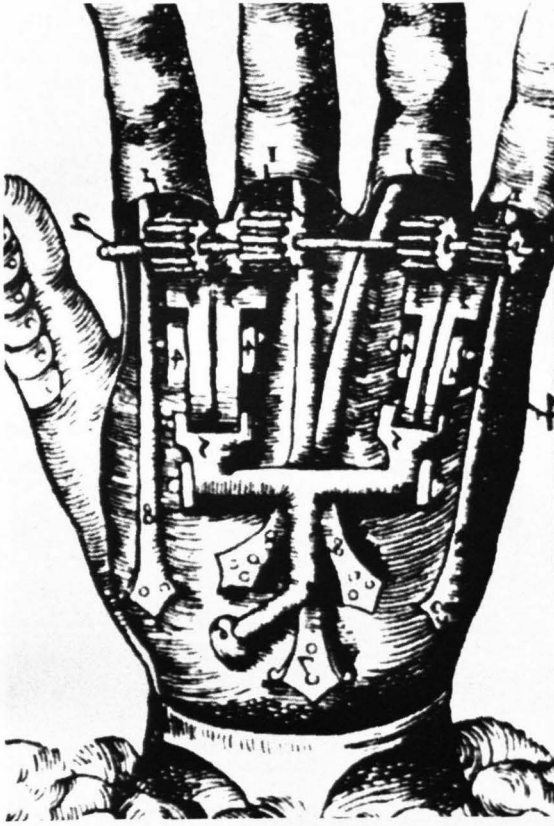
surface and uncover a subversive collaboration between nature and technology would be to revitalize from within the veins a nostalgic giant suffocating from the polluted air of enlightenment idealism. It would foster an environmentalism free from ideology and placed firmly in the urban goo away from historical bucolic utopia. An architecture in this interactive environment must express the permeability inherent in the skin surface and the image. This skin is interactive between the outside and inside, between the body and electronic networks (fig. 13). It mediates between the two hybridized environments. Architecture, bristling on the surface from the chill of millions of chance encounters, empowers the once isolated occupants of the interior. It's the paradigm for the environmental project. The skin seams together the two environments. As a building matrix, it supports the myriad of systems that link the city to the inhabitants, placing the body in the wilderness.

In the skin are nerves, muscles and intelligence that together produce an interactive building organism (fig. 14). "Smart" systems. The building reacts within its own internal systems as well as those of the city. The permeability of the skin is the basis for revealing the difference between them. If interiority exists beneath the skin, then the nature of the skin defines the space (fig. 15). A nature that can be endlessly written and rewritten, inscribed and re-inscribed onto. It's not only surface but it structures that surface. It incorporates society's need to represent the battle for the green and technology's mandate to deliver. An example of a culture that interacted and expressed the systems within nature and their culture is that of the Australian Aborigine. Nature as a flow of systems was stitched into their civilization becoming indistinguishable from it. The civilization was seen as another organic system interconnected with the established natural systems. When members of certain tribes of Australian aborigines travel across a terrain, they navigate using a memorized map, which is a song (fig. 16). This song, often learned in childhood, is not only a musical description of the terrain but an explanation of its history, its creation, its spiritual meaning and its ancestral connection to those individuals. Songlines are drawn using a series of lines and circles, representing paths and watering holes (fig. 17). Even when presented with a modern city as in the story of the Big Fly One a new songline can be drawn. Bruce Chatwin recalled, „It began with few straight sweeps then it wound into a rectangular maze and finally ended in a series of wiggles. It took me ages to realize that this was a Qantas dreaming. Joshua [the man who drew the songline] had once flown into London. The maze was London airport. The wiggles were the twists and turns of the taxi from the tube station to the hotel.“ The Aboriginal so called primitive hut is really a fine

tuned mechanism, interacting with the natural systems to negotiate the body. The huts (fig. 18) are simply a sectioned off privatized piece of the songline which – most importantly to them – continues through the enclosure. The space Aborigines capture to live in is off the ground to catch breezes and to provide protection from and for night-roaming animals. It's also a minimal insertion along a transient space, a space that exists to be moved through and that in turn moves through a structure. Their civilization becomes another system juxtaposed onto pre-existing natural systems. Its intrusion is more informational (by myths and legends) than physical. The Aboriginal dwellings belong to an era where the organic and the technical are completely blended together. That the era is now, offers hope

for architecture and the green cyborg, for not only does it represent the coercion of the artificial with the natural but it literally becomes that. The cyborg can dock anywhere on the skin of the building and become just another part of the construction as its fiber-optic veins connect to the building's wiring and download vital information. The architecture is its connection to the physical, to the city, to civilization. Architecture that is interactive with nature, purely connection, purely system, occupying the transient space, a songline, as the aboriginal would say, "will touch the earth lightly."

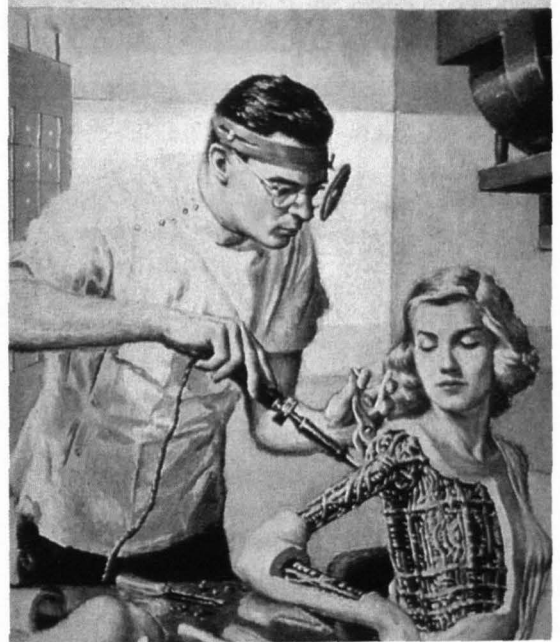
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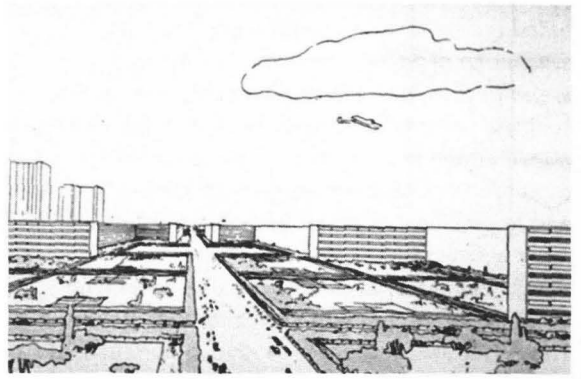
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 SCIENCE FICTION By F. L. Wallace



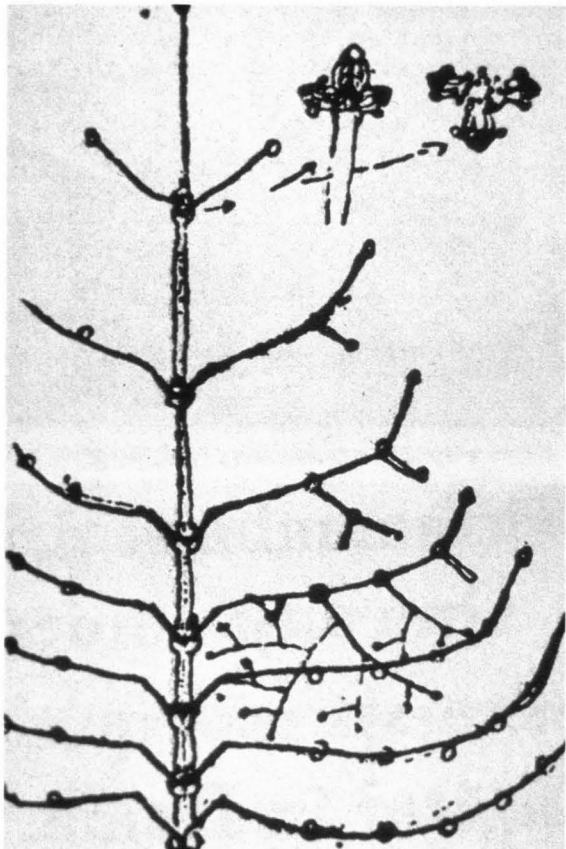
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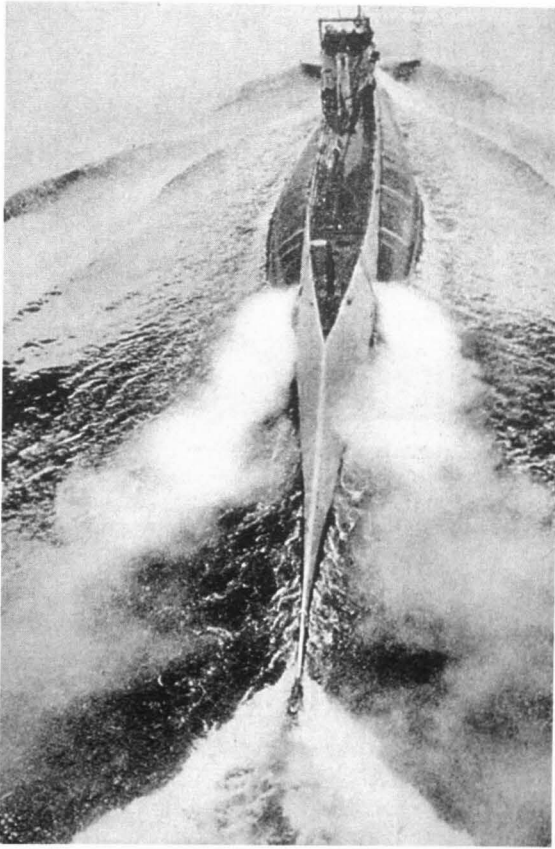
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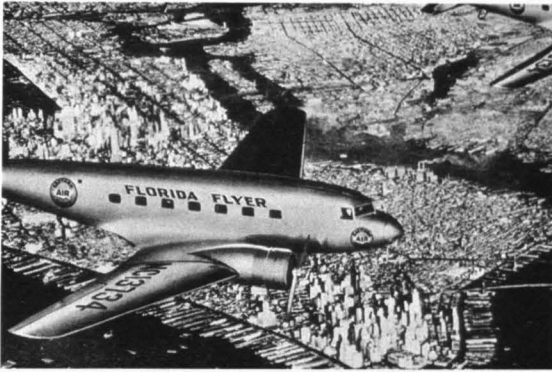
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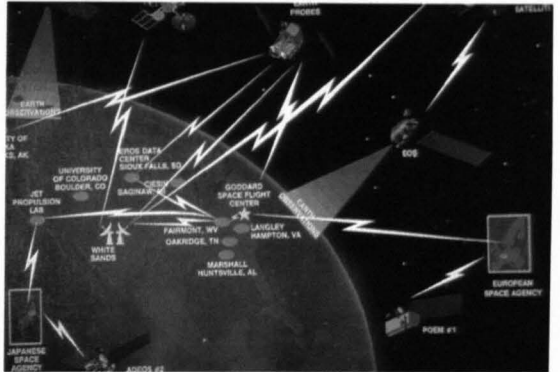
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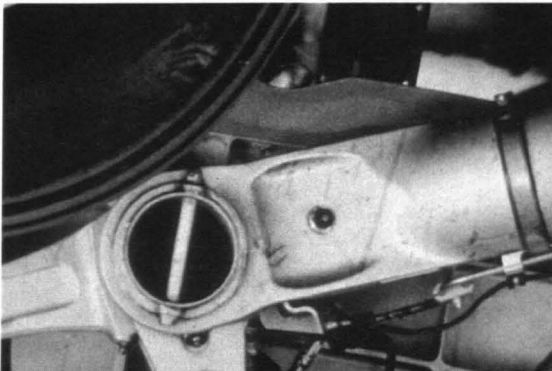
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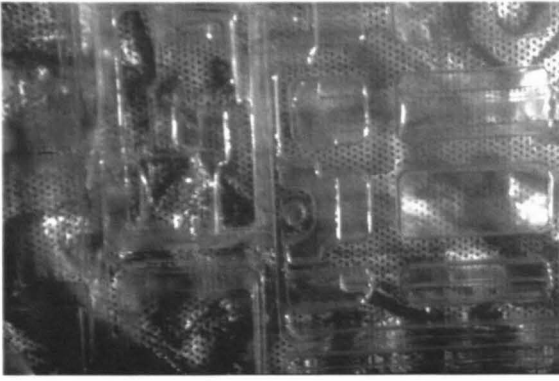
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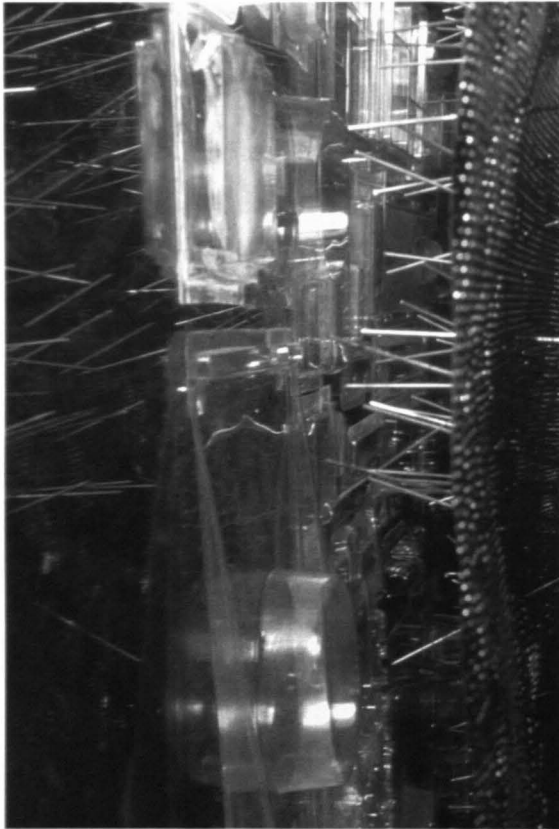
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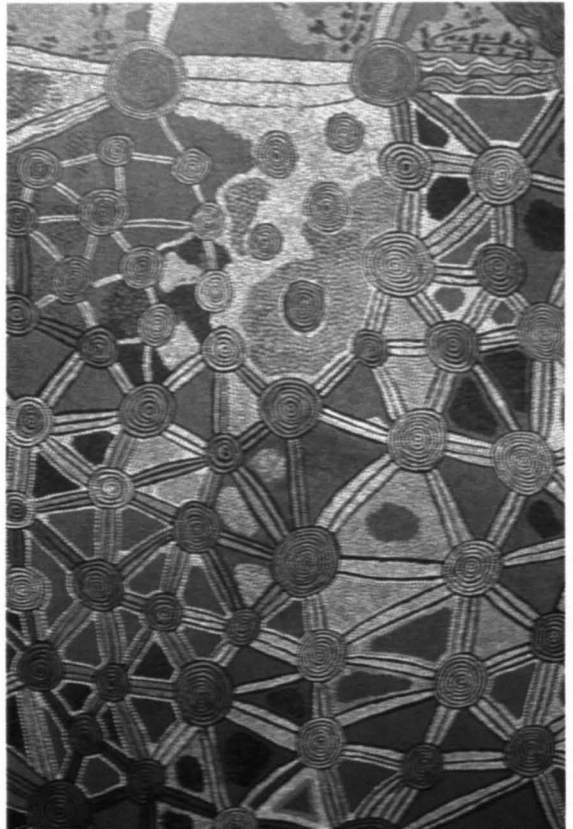
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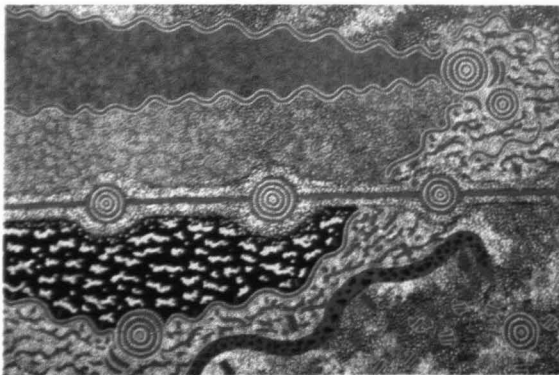
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