Michael Speaks: this text does not include the changes I made with you on the phone. I have lost the marked up original. Please go through this and make the corrections again. Thanks:

<...> indicates italics <<...>> indicates italics or bold and set off typographically. // marks section breaks

Michael

Piece for ANY, Mark C. Taylor Ed.

UNREAL ESTATES
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On the busy sidewalks of Manhattan it is easy to forget that the rest of America bears no resemblance to New York City and is never likely to. Los Angeles is the future of the American urban landscape, perhaps Atlanta, or Dallas, or Denver. The automobile has done it work---and so has electric power, air conditioning, and the telephone---to fling bits and pieces of architecture over the land as though from an overturned trash can, scraps simmering on the asphalt, a few landing on the lawn. Nothing is made when a building is made today but a sum of money and enough light to work by or watch TV. So much for Modernism, we say, but Postmodern touches only add insult to injury. Rain skitters down unbroken panes; the air is still; the wind is silent. Shall we listen to the return-air vent, to the traffic, to the voice on the answering machine? Shall we go to the mall, pick up a video?

And yet, from the tired and blackened streets of the old industrial cities and their grandiose downtowns (here crumbling, here green), to the beige and grey hotels of the new, post-industrial cities (here a fingerprint on bronzed glass, here a ficus tree)---products, both, of sloth and of avarice and the Constitutional right to pursue happiness in either---something new is arising. The ether is humming---no, <*roaring*>---and not with the signals of dying stars, but with the radiation of radio and television stations and cellular telephones; the air is alive with the plumbers, policemen, pilots and spies; with data streams from fax machines, with up-links and down-links from stock markets, news services, and vehicle navigation devices. The electromagnetic spectrum is quivering at every scale, from millimeter to mile, like an infinitely fine, space-filling spider's web, shimmering with a billion billion messages in transit from somewhere to somewhere, but always and permanently *there*, in transit and invisible, like the light the passes your nose. America has disseminated and desiccated herself only to send her warmth into the web, her neural life as one nation (under God?) reconstituted in a sort of electromagnetic hologram.

<<But only a portion of electronic communications occur through "the ether." Most of the high-bandwidth "good stuff," like computer data

and television and telephone, uses wires, specifically, coaxial cable, and soon fiber optic cable.>>

In certain respects this makes a difference, but in others it makes none at all. *Ubiquity* is the aim: to create a plenum of signals. Whether we tap into that plenum from a wall socket or we tap into that plenum with an antenna is a matter only of convenience. As and if it becomes technically possible to convert all communication systems into wireless digital format, it will be done.

<<But only a fraction of most people's lives are spent engaging in electronically mediated communication.
The sights and sounds and, therefore, the architecture of the real world dominate consciousness, and will do so for the foreseeable future.>>

Ah well, I suppose it depends who you are and what you do for a living. Need we remember that the average television viewing time in the U.S. is now seven hours per day and climbing? Need we wonder what will happen when fiber optic cable permits access to over five hundred channels, many of them interactive? When TV goes digital? Need we wonder whether an increasing or decreasing percentage of the population will (have to) find employment making movies, commercials, music, multimedia catalogs, or classroom "materials," the aim: to fill the air and the mind to capacity? Do you have a computer?

<<But the contents of the digital world present themselves in this one: on paper, on screens, from loudspeakers. These, in turn, have a place rather than constitute one, and we need not fear.>>

Now *here* is a boundary that is dissolving! With virtual reality technology---and not just gloves and goggles, but position-tracking high-definition displays and convolved sound-field production---the material interface between humans and computers is evaporating. Computers can create and maintain whole sensoria in three and more dimensions, this in total obliviousness to, and contradiction of, the local architecture. We should take note. Besides, where are you when you watch a movie? Where are you when you are "on the telephone?" Where is your money right now?

Enter cyberspace, the national hologram, the global hologram.

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Presently, it is possible to see the confluence of the computer, entertainment, and communication industries as dedicated to creating smarter information appliances such as PDAs (personal digital assistants), videophones, and friendlier computers (indeed, devices that blur the distinction generally between TVs and computers), or to making more astonishing science fiction movies, wilder theme park rides, and video games that will swallow up your kids for longer periods. Of course, a good part of the computer industry is still dedicated to improving the now-conventional tools of production, from accounting to science to CAD, with faster workstations and more powerful software.

But something else is going on too which is harder to see and which will be longer term in the coming, the fruit of connectivity, of super-connectivity: I mean the electromagnetic spectrum, now digitized, full and still filling, the plenum of signals, reconstituted as a sensible thing, visible and audible not as a roar of meaningless databits but as an ocean of stories and images and figures constantly in suspension, constantly transmogrifying, yet organized by consensus into a coherent and objective mental geography. The Net, the Matrix, cyberspace, call it what you will, but what we are witnessing is more than just the connecting of distant places to each other as by mail or telephone, but rather, in combination with ever greater computing power and data-storage capacities, the creation of a new medium entirely, a territory which when entered makes one's real geographic place irrelevant. This new territory will be bought and sold in terabits and gigabits per second rather than acres and minutes-from-downtown, and it will enable the creation of fictional, consistent, wholly electrical "third" spaces, places that exist nowhere and everywhere, whose light shines only upon eyes and not on streets or trees.

I mean, of course, cyberspace

As I have said elsewhere, cyberspace(s) will require constant planning. The structures proliferating within it will require design. And the people who design these structures will be called cyberspace architects. These architects will be schooled in art, literature, and graphic design, as well as in computer sciences (the cyberspace equivalent of "construction"). But their background will be chiefly architectural, sharing design studios and theory classes with their brethren "real-space" architects and parting ways only in the final few years of their education. Then, while material or real-space architects go on to design and oversee the construction of physical buildings---*indeed buildings whose quality of realness is now , by contrast, precisely their chief quality*---cyberspace architects will design electronic edifices that are fully as complex, functional, unique, involving, and beautiful as their physical counterparts, if not more so. Theirs will be the task of visualizing the intrinsically non-physical and giving sensible, functional, and inhabitable form to society's most intricate abstractions, processes, and organisms of information: to banks, universities, shopping centers, museums, theaters, conference facilities, cemeteries…or not to these exactly (for these are the names of building types, of shells, of husks) but to the living information-tissue inside them, that make them what they are. The future of computing and information technologies, then, holds out much more for architects than the use of CAD either to design ordinary buildings more quickly and cheaply or to help with complex shapes and databases. It holds out more too than using VR technology to do "walk-thru's" and impress clients. It holds out the possibility of an architecture <*that abandons the real altogether*>, an architecture exists only in the half-real nether-world of computer memories and the network of global communication lines that join them, architecture that is habitable only in a mental delirium of fusion with the machinery of illusion; an architecture that consists of buildings that are not really buildings at all but vast organizations of data, made of radiant phosphors rather than bricks, in shapes and with properties more fantastic than those imagined by any architect to date, structures thrumming with color and sound, that are everywhere and nowhere, that can be cancelled with a switch, and <*yet*>…that may be more practical, beautiful, and useful to the workings of our information

society and the creation of communities than any of the real buildings we see around us now or can hope to build.

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<<Marinetti redux? The ridiculous dream of redemption by machine and transubstantiation through speed, this while people live under bridges and Cadillacs drive by, sporting little antennae; this while people lose their jobs to computers and boatloads of Chinese bob offshore, waiting to come in; this while kids in their millions lose their smarts to TV and are sold them back with "software that teaches"--like hell!?>>

Do not shoot the messenger. Cyberspace will arrive as surely as a freight train heard two valleys away.

Or perhaps a train is not the best image. Henry Ford sold his first Model T in 1908. By 1916 he had sold 15 million units and the price had halved. The city was to be escaped; the middle class would follow the rich into the countryside. Realtors, car dealers, tire makers, gasoline refiners, road builders, and home builders organized to lobby hard for roads. By 1921, government spending on the highway system reached $1 billion per year. No longer would it take a train and two trolleys to visit Aunt Maude, no longer would Harry and his family have to live near the plant. The automobile was the constitutional promise of freedom made real. With new sewers, power grids, bridges, tunnels, airports and freeways, America's infrastructural growth bent itself to the task of suburbanization, a task in the conveyance of material and energy to ever larger and more thinly populated areas that is not yet complete. Mail service aside, the transmission of information--all but weightless--was left to private enterprise. But now *its* time of explosive, Federally assisted growth is at hand.

The "National Data Highway system" is no empty concept. This Administration is convinced that the future of our economy lies in the production efficiencies brought about by electronic connectivity, and in our global mastery of communications technology itself. It may be right. The price of computing power is dropping faster than did the price of Model T's. Already, with little or no Federal help, message traffic on computer networks such as the Internet is increasing at 20% per month. Thousand of miles of better cable---wider roads---are being laid monthly. Giant electronics, entertainment, telephone, cable TV, and software companies are falling over themselves to establish strategic partnerships. At stake: future hegemony over the form and contents of the new media landscape.

<<"The new media landscape?" Is there a there there?>>

The answer to this question unlocks the key difference between the infrastructure constituted by highways and power grids and the infrastructure constituted by copper wire, microwaves, and optical fiber. The highways went somewhere that was already there: Aunt Maude's house, the Grand Canyon, California. America was waiting, structured in space and time and rich in resources from iron ore to beautiful vistas. Not so cyberspace. Cyberspace must be made: it cannot be discovered. Cyberspace is a constructed geography, a new planet, not yet laid out and without weather. Five hundred TV

channels to choose from don't make cyberspace unless the places they depict and the things they do are coordinated, arranged in a spatial pattern no one person can change at will. Forty thousand simultaneous phone calls, with or without video, don't make cyberspace unless the people making them can hear or not hear each other, see or not see each other, as a function of position and orientation in a virtual space given by the system itself.

How is this all to come about? I shall be brief, for I do not know.

The romance of the hackers is over; only Mondoids remain to sing their praises. The first cyburbs are likely to flower as places of terrifying artificiality, Disneylands to beggar Disneyland, taking on shape only under pressure to conduct the glut of information and entertainment to consumers into a navigable, recognizable whole. In contrast to the history of real cities and suburbs, cyberspace may not colonized by the rich until the entertainers and marketers have had their way with the hoi-polloi. For millions of dollars will be made by those who buy and sell the unreal estate, and millions more by those who amuse them there. The educated will decry the lack of taste; but the money and the technology will finally be there to waste it on Art. Perhaps only then will the architects be called in.

Is this what we're waiting for? Do we have a choice? I think about these things.

Michael Benedikt teaches architecture at The University of Texas at Austin. He is the author of <*For an Architecture of Reality*> (Lumen, 1987), and <*Deconstructing the Kimbell*> (Lumen, 1991), and is author/editor of <*Cyberspace: First Steps* >(MIT, 1991).