

The Car of the Future

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Today we will speak about the "Car of the Future" considered as a trickster cyborg or Animatic Automaton situated at the center of a network of relationships – an automobile design project.¹ Note that there is a crucial distinction between the cyborg as articulated in *Star Trek: Technologies of Disappearance* and the cyborg as depicted in many instances of popular culture, including today's typical automobile advertisements.² The cyborg as thought in the *Star Trek* book and by iconic cyborg theorist Donna J. Haraway is a trickster figure, playing at the boundaries between fixed categories, as do Mr. Spock of *Star Trek: The Original Series* (Vulcan and human, logic and emotions) and Seven of Nine of *Star Trek: Voyager* (Borg and human, male and female). The trickster cyborg is ambivalently singular. The cyborg of much of popular culture is a clone, literal and hyperreal, combining life/flesh and technology with little thought invested, like Robocop or the Universal Soldier. We will also speak about the application of animation and multimedia in and to the "Car of the Future" – a media integration project. Animation will be in the car, and the car will be animated. We call this the 'Animatic Automaton', a term originated by Dr. Alan Cholodenko.

Planes, trains, and automobiles should be thoroughly redesigned for the experience of the riders rather than as mere vehicles for getting from point A to point B.

Our conception of the "Car of the Future" is primarily inspired by the theories of technology of Marshall McLuhan, Donna J. Haraway, Gregory Bateson, and Paul Virilio.

McLuhan was the Canadian founder of worldwide media theory. He made a pioneering entrepreneurial attempt in the 1960s to make money in the business

world on the basis of his profound knowledge of the history and future of design, physical environments, architecture, urban planning, transportation, fashion, media, advertising, communication, technology, and culture, a knowledge that he possessed in the context of being a Professor of the Humanities and Literature. McLuhan wrote presciently about the "Car of the Future" in a chapter of his major work *Understanding Media* (1964).³

Donna J. Haraway is the founder of cyborg theory, which she initiated with the 1985 essay "A Manifesto for Cyborgs."⁴ *Star Trek: Technologies of Disappearance* contains about a hundred pages about cyborg theory, studying in three successive chapters the figures of Spock, the android Data of *The Next Generation*, and Seven of Nine. The application of cyborg theory to the car can be viewed as being an extensive deepening of the idea of the hybrid vehicle. Current ideas about hybrid vehicles are restricted to the single area of the car's power or fuel source, being a hybrid between petroleum and electrical energy, compressed air, the sun, or other power source. By intensifying the question of hybrid to the question of the cyborg, as well as generalizing the question of hybridity to every aspect and dimension of the vehicle without exception, a car company could separate itself from all other car companies in the world, conventional or alternative.

In Jacques Derrida's poststructuralism or deconstruction, binary oppositions or pairs, such as light/darkness, good/evil, masculine/feminine, and right/left, structure the organization of Western society on all levels.⁵ The "Car of the Past and Present" is structured fundamentally around binary oppositions like inside/outside, individual/society, security/danger, and motion/immobility. The methodology to be pursued in designing the "Car of the Future" is to first identify all of the binary oppositions which define the "Car of the Past and Present" and then to rethink each area to which a given duality belongs as embodying a to-be-developed hybrid of the two previously opposed terms. Here our methodology is very influenced by both Derrida's deconstruction and Buddhism, and there is a significant difference between it and the Marxian dialectic. While Buddhism and deconstruction have their differences, they share the fully hybrid form that says that at once both of the prior oppositions A and B are true, and neither A nor B is true: both and neither at the same time. In our methodology, the "synthesis" (which is not one) is a sort of "impossible possible" that preserves the truths of A and B even while negating them, without being watered down. The Hegelian-

Marxist dialectic errs in not preserving enough the truths of A and B when making the synthesis C. Many Marxists tend to want to make the previous oppositions irrelevant.

To think of something as hybrid is the beginning of thinking about systems as composed of relationships, not only parts; and we would consider the car as being a trickster cyborg or Animatic Automaton at the center of a network of relationships. As the scientist-philosopher Gregory Bateson wrote in his major work *Steps to an Ecology of Mind* (1972), "the whole is always in a metarelationship with its parts."⁶ "Part of the discovery of the beauty of a biological form," he elaborated in the *Esalen Center Lecture Series*, "is the discovery that it is put together of relations and not put together of parts. This means that with a correction of our epistemology [theory of knowledge], you might find the world was a great deal more beautiful than you thought it was."⁷ Seeing a network of relations goes together with perceiving the supremacy of *patterns*. Patterns are everywhere, anywhere, and nowhere. Patterns are *in between*, ephemeral yet real. They exist in parallel to what we commonly call reality. We can only perceive them if we are precisely tuned in to their wavelength. They only become visible to us under certain specific conditions. Bateson foresaw the initiation of a shared collective project of friends to imagine and bring about a vivid awareness of the profound structures and dynamics that underlie the true realities of nature and human existence. Together with Steve Valk, Michael Klien, and Jeffrey Gormly, we call this process "social choreography."

Paul Virilio is a French theorist of technology whose work has focused on architecture, art, transportation, war, urban planning, and the cinema. Virilio's central concept is speed, as in the title of his major early work *Speed and Politics* (1977).⁸ He is also a theorist of accidents and crashes. Virilio argues that military technologies and agendas drive history. All important technologies of the twentieth century derive inherently from military technology. In the case of the automobile, Virilio emphasizes its relationship to strategic-logistic technologies of surveillance and control over physical territories, the car's affiliation with the airplane and the tank. The advent of armoured vehicles powered by the internal combustion engine played a major role in bringing World War I to an end. But for some time now, he contends in *Polar Inertia* (1994), the car has been in decline as a vehicle for moving through conventional space.⁹ We now primarily inhabit time

rather than space, and driving is intrinsically a cinematic experience. As we drive, the world is speeded up, rendered perspectival, and edited, just as in a film. As long as automobile manufacturers persist in not recognizing this, the car will continue to be upstaged by the "trans-dimensional" vehicles of media image streams such as TV and the Internet, tele-commuting and tele-shopping, experienced by the public as a better way to navigate the virtual reality in which we now live. In an important sense, the car needs to be redesigned from scratch in order to keep up with these developments of the supercession - to a significant degree - of the physical real by the virtual (what we want is a new, more embodied relationship between the physical real and the virtual). This comprehensive redesign is something entirely different from simply equipping the car with high-tech gadgets ranging from cell phones, MP3 players, video screens and recorders to radar detectors, global positioning systems, and command-oriented speech interaction.

This analysis of the deficit of the automobile with respect to TV, computers, and telecommunications leads to the formulation of the idea of the "Car of the Future" as a new VR entertainment platform: **the Tele-Car or Tele-Mobile, the Holo-Car**. The car will become a cockpit for all kinds of simulations or virtual realities.

Regarding the question of urban sustainability, we wish to draw attention to the work of Bernard Tuchman, which is currently focused on the interface between plug-in hybrid vehicles and the intelligent (smart) power grid.¹⁰ The smart grid "makes extensive use of sensors for grid observability... to support advanced operational control and strategic decision making."¹¹ (intelligent grid system definition of CenterPoint Energy of Houston, Texas) The hybrid vehicle adapted for the smart power grid recharges its battery variably and intelligently, balancing the needs of the driver and the energy available in the grid system.

The *Corvette Sting Ray* of the mid-1960s is the first, authentic, and trickster cyborg futuristic car to which we should return for inspiration about the "Car of the Future." The crucial point is this: it is about the difference between the copy and the original, between the clone and the singularity! This is Cultural Theory 101 of Jean Baudrillard, Walter Benjamin, and Andy Warhol's pop art. See Benjamin's famous essay "The Work of Art in the Age of Its Technological Reproducibility" (1936).¹² It is about time that these basic insights about original and copy, singularity and clone were applied to cars. All the cars which are on the

road today, all the cars which one sees in advertisements, are instances of bad futurism, futuristic in the bad sense, because they are mere technical clones of the singularity of the first futuristic car, with no understanding of its spirit (*Geist*). The singularity belongs to what Baudrillard calls seduction or the first order of simulacra (likenesses or similarities). The logic of the original and the copy belongs to reproduction or the second order of simulacra. A singularity first becomes an "original" in order to participate in this system. The clone belongs to simulation and the hyperreal, or the third order of simulacra. The Automaton and the trickster cyborg correspond to the first order of simulacra; the robot corresponds to the second order; the clone and the Universal Soldier-like cyborg correspond to the third order.

Understand what the design of the first futuristic car achieved at an historical moment when there were no such cars. Get back truly into the spirit of the singular creativity of the Sting Ray, understand from the inside what was inventive and brilliant about it, and then carry out a true continuation of this singularity. What is the seduction of the Chevrolet Corvette Sting Ray? What is the seduction of the "Car of the Future"?

The "Car of the Future" is a Transformer (movie toys and action figures; device that transfers electrical energy between circuits) that changes its shape. This could be done with mechanical, electronic, and electromechanical technologies. Smaller modular units of the car, perhaps pods belonging to individuals, will combine together to form social vehicles.

The "Car of the Future" will flexibly alter its basic planar orientation between horizontal and vertical. It will transform its shape as it exits the highway and enters the city. When in the city, it will only be 55% as wide as today's cars. It transforms into a double-decker with four passenger compartments: lower front, lower rear, upper front, and upper rear. Each compartment is about as wide as the seat of a golf cart, and can comfortably accommodate one or two persons. Up to 8 persons can ride in the car. The driver sits in the lower front compartment. There is a retractable electric stoop on the exterior side of the car that goes up and down like a small elevator platform, enabling access to the upper compartments. The engine turns vertical with the car, or is small enough to not need to be rotated.

Thanks to its decreased overall width when in the city, the "Car of the Future" will provide the prerequisite for the humanly beneficial redesign of urban streets.

They will be only half as wide as they are now. Cars can go in single file in this much narrower street. This will make for a much wider sidewalk, and give back much physical space to the urban environment to rebuild the social sphere and the community. Street life will make a comeback. Parking problems will be greatly alleviated.

We should also turn our attention to the cars in James Bond films and what they can do. In *Goldfinger* (1964), Bond, played by Sean Connery, drives a 1964 Aston Martin DB Mark III which includes a switch that alters the color of the front and rear lights. The color of the "Car of the Future" should be changeable at the push of a button. In *The Man with the Golden Gun* (1974), with Roger Moore as Bond, a 1974 American Motors Corporation Matador coupe transforms into a car-plane to fly from Bangkok to an island in the China Sea.

Driving is one part of a hybrid-trickster cyborg multimedia experience. Driving is hybrid with what one sees (video images). Driving is hybrid with what one hears (music). Driving is hybrid with what one environmentally feels (weather, climate control). Driving is part of a multimedia experience of the merging of the real and the virtual in a new kind of embodiment. There is an interesting relationship of a "small difference" between the real landscape that one sees outside the car window and projections of virtual three-dimensional images made by the car computer.

The car has always been a vital machine, something that is alive.

Alan Cholodenko states: Animation bedevils definition, even (and especially) 'its' 'own' - double - definition: *endowing with life* and *endowing with movement*. While the defining of animation and the Animatic Automaton is devilishly difficult because they are by nature elusive, at the same time the grasping of this complex of life and movement on its many levels is the key to laying the cornerstone of a strong concept for the "Car of the Future."

The key to such grasping lies in the history and theorising of the relation of animation to animism and mechanism.

A debate within Western culture has existed since classical times between the animists, who believed that the world was alive with organic or spiritual substance, that all that moved was alive, and the mechanists, who believed that the motion of matter was obedient to physical laws and necessitated no presumption of organic or spiritual vivifying agency. The animist lineage goes back to the creationist myths of the spark or breath of life of the Greek god

Hephaestus (the god of technology and other crafts, known to the Romans as Vulcan), and of the mythological figures of Daedalus, Pygmalion, and the Titan Prometheus. The mechanistic lineage can be traced back to the Alexandrian School of the second century B.C. Seventeenth-century thinkers like Descartes and Newton were also mechanists, as in Descartes' metaphorical model and model metaphor of the universe as clockwork, his notion in the *Discourse on Method* of the animal as clockwork automaton - *bête-machine* - and the human as dual - body like animal like automaton, mind or soul as independent and immortal.

The debate between the animists and the mechanists is a debate over the relationship between life and motion. In the context of the history of the car, we are now just on the brink of emerging from a long period of time in which the car was regarded as not alive, as merely a mechanistic machine, to one in which there is the opportunity of its not only being regarded as animated but of its having that very possibility of becoming animated, animated in a way never before seen nor known. The life of the Animatic Automaton.

The Animatic Automaton resides at the border between animistic myths and mechanistic inventions, a 'being' at once both and neither, and reanimating all kinds of interesting interweavings and relationships between these two traditions. The Animatic Automaton must be thought of in relation to Derrida's characterization of the spectre, the heliotrope, or *différance*, and Baudrillard's characterization of the Other or the Radical Illusion of Seduction.¹³

The automobile, or auto-mobility, is connected with autokinesis, movement in itself. Insofar as the automobile is a self-moving and self-animating technology, it lies between and partakes of both the inanimate and the animate. It is neither simply inanimate nor simply animate. And if its 'life' is singular, enchanting, seductive, theatrical, magical, it is Animatic Automaton. This is what is at stake in the "bringing to life" of what we have until now believed to be inanimate inorganic objects. It will be neither life as we know it nor something non-living. The software objects that we would like to bring to life are "semi-living entities." David F. Channell gives it the name of *the vital machine*, the eclipsing in the bionic worldview of the simple opposition between the animistic and the mechanistic worldviews.¹⁴

I think the Animatic Automaton not only in terms of the *illusion of life* but in terms of the *life of illusion*. Such would, and could, be the seductive life of the automobile.

Alan N. Shapiro states: Only a car company which engages a philosophical-technological expert on the Illusion of Life and the Life of Illusion will be able to bring the Animatic Automaton to life. As Cholodenko explicates in his essay in *The Illusion of Life II*, the Animatic Automaton is a kin to the Nexus-6 replicants in *Blade Runner* (1982), the T-1000 android in *Terminator 2: Judgment Day* (1991), and Tetsuo in the classic Japanese animated film *Akira* (1988). The Animatic Automaton is a hybrid form, an "animate inanimate." "Uncertainty, undecidability, as to whether a figure is living or dead, animate or inanimate, human or machine, animistic or mechanistic, is precisely what the automaton - the 'animate inanimate' - induces."¹⁵

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As Bernard Tuchman points out, "an enormous investment is now being made to develop and produce plug-in hybrid electric vehicles (PHEVs) to help shift on-road transportation away from petroleum. Rarely has a new technology moved so quickly from concept to commitments for full-scale production. Current hybrid cars use gasoline to generate all of their electrical power. In contrast, plug-in hybrids will get their electrical power primarily from the [intelligent or smart] grid. [In most of America,] they will not require a new infrastructure, unlike other alternative-fuel vehicles. But in cities like New York, many car owners do not park in personal garages, [like the Smart Garage being proposed as a new energy paradigm,] so there is no readily available place to charge a PHEV."¹⁶

The city of Berlin has recently announced plans for the world's largest community electric car infrastructure. As in the "Johnny Cabs" on Mars in the Philip K. Dick-inspired movie *Total Recall*, the intelligent grid and other technologies may enable the production of cars with Artificial Intelligence that drive themselves. Such vehicles are now being called "podcars" or PRTs (Personal Rapid Transit). "Connect Ithaca," a group of planning and business professionals in Ithaca, New York, the home of Cornell University, wants Ithaca to become the first "podcar" community in America.¹⁷

Like Alexis de Tocqueville's "general leveling" effect that is a function of the relative equality of social conditions in America and brings about a culture of conformity, Marshall McLuhan sees the "Car of the Past and Present" as having

contributed mightily to the uniformity of America. In the cities, in the suburbs, and in rural areas, everything in America looks more and more the same – the same shopping malls, fast-food chains, filling stations, and corporate plazas. "For forty years," writes McLuhan in *Understanding Media*, the car has been "the great leveler of physical space and of social distance as well."¹⁸ The car has done its social leveling via its sheer horsepower. Its speed has conquered geographical expanse. Cross the street against the traffic light as a pedestrian, and the car-driver might feel legally legitimated and enjoy his power in killing you. As Theodor W. Adorno wrote in *Minima Moralia*, "Which driver is not tempted, merely by the power of his engine, to wipe out the vermin of the street, pedestrians, children, and cyclists?"¹⁹ The "Car of the Past and Present," continues McLuhan, has created highways and resorts "very much alike in all parts of the land," spreading everywhere "the automobile version of civilization."²⁰ The current instantiation of the car still belongs to the Mechanical Age. It is a hot medium. The "Car of the Future" - with its lightness, flexibility, and easy-riding freedom - will be the electronic and cool medium successor to the instance of the car as we know it.

Donna J. Haraway has emphasized the importance of using the term "cyborg" specifically for techno-scientific entities that became possible in the historical conjuncture around 1960.²¹ The (Corvette) Sting Ray was at first two words, later changed to one word, Stingray, also known as the Chevrolet Corvette C2, manufactured by Chevrolet, a division of General Motors, in production from 1963-1967, assembled at the St. Louis, Missouri assembly plant. The Sting Ray was designed by Larry Shinoda under the styling direction of Bill Mitchell. Its predecessor was the Chevrolet Corvette C1, the first generation of Corvette, manufactured from 1953 to 1962. The Sting Ray was a sports car, available in body styles of the 2-door coupé and the 2-door convertible. According to wikipedia.org, the Sting Ray coupé had a "distinctive split rear window" and fake "hood vents as well as independent rear suspension. The split rear window was discontinued in 1964 due to safety concerns."²² The 1966 Corvette, with its very large V8 version of the "Big Block" engine, is considered to be one of the most collectible cars ever. The 1967 Corvette, with an L-88 version of the 427 V8, sells today for up to US\$1,000,000. What makes the Corvette Sting Ray so collectible? In what way does the Corvette foreshadow the "Car of the Future"?

In the automotive art of Missouri painter Dana Forrester, we see images of Corvettes integrated into classic icons of American popular everyday consumer culture: Corvettes sitting in front of a diner, Nichols Lunch, and brick wall images (weathered and layered advertising signs painted on brick walls) of Cafes, pinup girls, Speed Shops, Route 66 Service, soda fountain service, a barber shop, the Assembly Line exit where the car was produced, the Indianapolis Motor Speedway, the Tastee-Freez soft ice cream shoppe, A&W Root Beer, Fried Chicken Restaurant, filling station, Baseball, Hot Dogs, Apple Pie – and Chevrolet.²³

Jean Baudrillard (in his book *America*): "The way American cars have of leaping into action, of taking off so smoothly, by virtue of their automatic transmission and power steering. Pulling away effortlessly, noiselessly eating up the road, gliding along without the slightest bump (the surfaces of the highways and freeways are remarkable, matched only by the fluidity of the car's performance), braking smoothly but instantly, riding along as if you were on a cushion of air, leaving behind the old obsession with what is coming up ahead, or what is overtaking you."²⁴

The classic vintage American car is an embodied metaphor of freedom, instant acceleration to high speed, easy and fluid like a song on the radio, accent on the present moment, the now.

It symbolizes exotic and erotic fantasy and individual destiny. It is something about America that belongs to the collective imagination of Europeans as well.

In our concept of the Car of the Future, people will use their cars a good deal of the time for activities that take place in a virtual reality environment (similar to the Holodeck on *Star Trek: The Next Generation*), and less for the physical activity of getting from point A to point B. This will have the direct outcome that less petroleum will be used, and less pollution will be given off. In addition, we will need to concern ourselves with the environmental issues that are relevant to all hybrid cars. Typical hybrid designs use less fuel and have lower air and noise pollution emission levels than conventional cars with internal combustion engines. Automotive engineering can improve aerodynamics, as well as intelligently regulate the use of fuel in situations of traffic and urban driving. The batteries currently used in hybrid cars are typically made of nickel metal hydride or lithium ion. Although the materials in these cells are less toxic than

those used in conventional car batteries, there exist controversies surrounding various health problems which may be caused by these constituents.

The merging of the real and the virtual in a new kind of embodiment takes place in the animation and multimedia features of the "Car of the Future." At some point there will no longer be any difference between the three-dimensional digital video images displayed outside the window of the cockpit flight simulator and the three-dimensional digital video images of sunny landscapes projected outside the passenger window by the car computer as I drive through the country on a rainy afternoon. Once we arrive at this point of convergence between the named virtual simulation of a remote, normally inaccessible activity and the unnamed virtual simulation of a familiar, accessible human activity, then both types of software application have elaborated their object to the point where the elaborations join together in the same completed and perfected simulacra. What was previously called information and what was called reality become as alike as the two sides of the Möbius strip. As Virilio writes in *Polar Inertia*, "How can one fail to grasp that tomorrow's transport machine will first of all be a 'driving-computer', in which the audiovisual feats of the electronic dashboard will prevail over the optical qualities of the field beyond the windscreen?"²⁵

The Tele-Car or Tele-Mobile, the Holo-Car: A technology of a very special kind of glass will be developed for the car's front and rear windshields, and front and back side windows, left and right. This technology will be dual-purpose. The glass will be transparent, allowing the driver and passengers to see the real physical world, real landscapes and real highways, as in the "Car of the Past and Present." In addition, the glasses will be video screens, surrounding the driver and passengers on all sides with video images. What will be played and seen on these video screens is the central component of a new virtual reality experience. The car will become a cockpit for all kinds of simulations or virtual realities. What one sees through video will be complemented by what one hears through audio, by climate changes that one senses through the environmental and climate-control systems, and by the feel of the car against the road or the terrain, the simulated physical interaction between the car and the outside as the driver drives and the car "moves." But the car does not actually go anywhere. It sits somewhere, in a driveway or in a garage, or in a special entertainment facility that is the successor to the drive-in movie, where the car gets attached to some kind of intelligent grid.

For 500 Euro, the consumer buys the virtual reality game cartridge "Driving Through the Swiss Alps." Or "Car Chase in San Francisco." "New York City Taxi Driver," "African Safari," "Driving Through the Arizona Deserts," "Riding Rover on Mars or the Moon," "Submarine Exploring the Ocean Floor," "James Bond Speed-Boating in Venice," "Helicopter Ride Over the Caribbean Islands," "Japanese Sex Hotel" (instead of an unchanging environment, the 'room' can be modified, reanimated, at least audio-visually, to animate anew the libido). It does not have to be restricted to the vehicle being a car. It is a new multimedia platform, a virtual reality games platform, also inspired by virtual golf simulators, with game cartridges that can be produced in a big third-party market, using an API (Application Programming Interface) made available to developers by a large automobile manufacturer, or a joint venture between a large automobile manufacturer and R.I.C.E. (Radical Ideas for the Creative Enterprise, Research Institute for Cybernetic Epistemology, Real Institute of Civic Engagement, Reality-Informed Catalytic Events).

The focus is on adventure, history, inter-cultural communication.

The car as a simulation vehicle. The car as its own amusement park. It projects all these simulation rides through its windows (**Alan N. Shapiro states:** In the *Star Trek* book, I wrote 80 pages about virtual reality technologies and stories, so I am an acknowledged expert on VR and simulation technology.)

The car as virtual reality experience platform will alleviate problems of high gas costs, traffic, and pollution. It will also reduce accidents. Our sense of distance is now more a matter of time than space. The auto isolates us by increasing the time needed to connect, by creating congestion and its mitigation, sprawl. Yet, earlier in its history, the auto also reduced the time needed to connect, as compared say, with the horse and buggy. This progressive evolution can now be carried on via new kinds of connectivity.

The "Car of the Past and Present," because it has been conceived in theory and built in practice as a vehicle for overcoming physical distances, has lost out in popularity to TV, Internet, and telecommunications, these latter being multimedia technologies which conquer physical distances much more instantaneously than the car does. The correct technology for in turn surpassing all these tele-technologies which have beaten out the car for a long time is virtual reality. With this virtual reality entertainment-experience technology, cars (the

"Car of the Future") will truly leapfrog all the other media technologies and re-take the lead as the coolest thing around.

In the computer industry (for example, in Bill Gates' book, *The Road Ahead*), many believe that such a generalized cockpit center for VR will emerge in the living room, as an extension of TV and computers.²⁶ This is wrong. How can you convince the public to accept some new and cumbersome cockpit simulator equipment into their living rooms? The chance that this will succeed is very low. The car, on the other hand, is the natural platform to be extended for this virtual reality media technology. From a marketing point of view, it will almost surely succeed.

Worldwide efforts by automobile manufacturers to make an ecological car have only resulted in very small cars **that lose all the sexiness** that have made cars into some of our favorite objects and places of desire. Once again, we have to connect with the cultural history of our passion for and in cars.

The VR platform will not succeed if it is conceived only as an entertainment platform. That would be too, well, "American." It has to be European, have some style and some literary qualities, has to be based on some of the ideas of Europe's greatest cultural philosopher, Jean Baudrillard. The windshield and windows are vistas onto the real and onto the virtual. The binary opposition between real and virtual images is largely transcended. We must understand the ways in which the virtual is the new real. We must grasp Baudrillard's special idea of simulation technology: at the heart of simulation is the Radical Illusion of Seduction or the Other.

The "game cartridges" can be written by talented fiction writers who are specialists in narrative and literary theory. As I (Alan N. Shapiro) wrote in the *Star Trek* book about the Holodeck virtual reality system of *Star Trek: The Next Generation*, the best Holodeck episodes are those with genuine literary qualities, which display true intelligence, what Baudrillard would call "the Intelligence of Evil."²⁷

One can add Hollywood adventure movies to what might be seeable. *Indiana Jones* adventures. *Jurassic Park*, especially with so many shots from the jeep and the tour cars. Movies, including documentaries, car races, 3D movies, new movies made for the "Car of the Future." The list goes on and on. Add vending machines

and especially comfortable seats. As the successor to the drive-in experience, even porno could be one of the niche markets.

The large automobile manufacturer will surely want to make virtual reality cartridges that focus on entertainment and are very sellable. That is fine with us. R.I.C.E., on the other hand, wants to creatively experiment with making virtual reality cartridges that are highly intelligent and where we exercise our artistic freedom. When I (Alan N. Shapiro) watched the discussion/debate on German TV recently between Marcel Reich-Ranicki and Thomas Gottschalk on what is to be done about German TV, I heard two completely opposed positions favoring either artistic/cultural quality or entertainment.²⁸ But what I believe is truly possible is to bridge the gap between these two positions and create works that achieve both goals. So the deal that I want is this. The first 25 virtual reality game cartridges will be produced. Then they will be marketed by the large automobile manufacturer. 20 of the 25 cartridges can be produced by the large automobile manufacturer, and they can be any kind of entertainment or sellable products that the large automobile manufacturer wants. 5 of the cartridges will be produced by R.I.C.E. We will have our own production department for this. For these 5 products, we will have complete artistic freedom. We will demonstrate that what we believe is possible is possible. The large automobile manufacturer will finance the development of these 5 virtual reality cartridges, and will then market them. This way, there can be no possible conflict between R.I.C.E. and the large automobile manufacturer about quality or artistic freedom during the development. In the first phase, we will simultaneously develop the cookbook methodology for writing and producing all virtual reality cartridges, and create the first prototype.

Here is an enrichment of one virtual reality game cartridge idea along the lines of a multimodal/holistic experience. We take the example of "New York City Taxi Driver." In this cartridge-story, you are the taxi driver. Characters or VR avatars enter the back seat of the car. They appear as three-dimensional living images through holographic technology (like the Holographic Doctor on *Star Trek: Voyager*). As in a driving video-computer game, you as the taxi driver experience visually and auditorially driving through the streets of New York City while exercising the physical operations/manoeuvres of driving, but you also experience the external environment via tactile, motoric and electro-mechanical contact. You feel changes in the weather. Through the front and rear windshields,

and front and back side windows, you see the sights of Manhattan interactively as you drive through every street and tunnel, and over every bridge. You hear the sounds of New York City through an "Akustische Inszenierung." The surprises in the story come about as a result of the behaviour of the avatar-passengers, and the requests that they make regarding the destinations to which they want to go. There can be intriguing turns of events, as in a detective or crime story. There can be romance, as in a love story. Considered all together: visual, acoustic, electro-mechanical, motoric, climatic, and animated-holographic technologies are deployed.

The API will not be open source! It will be more like a C/C++ API, where the third-party developers can use or extend the API classes, but the sources are encrypted. This is to protect the financial investments of the large automobile manufacturer and R.I.C.E.

Regarding online communities, it might be possible to have a connection between the virtual reality multimedia "Car of the Future" platform and a virtual 3D online world like "Second Life." You could have cartridges where "Second Life" VR scenes and experiences become more embodied.

Cartridges can of course be password-protected and can be personalized/customized. We want them to not be read-only; they should rather have interactive "writeable" features.

The evolutionary aspect of the car characters (for example, the passengers who get into the taxi in the example "New York City Taxi Driver" virtual reality cartridge) arises from the progressively developing and multi-level nature of the stories, the embeddedness of the characters in narrative and interactivity.

There can also be car characters which are independent of any specific virtual reality game cartridge, and which come standard with the car as a base set of characters. In this area, it will most definitely be possible for the VR avatar characters to evolve with time, as they learn more about me and my idiosyncracies. This can lead to a highly differentiated experience. Artificial Intelligence technology will be crucial for making this happen. Animated holographic technology (for example, from View Holographics Ltd) will be the best initial technology for the car characters.

In addition to the ideas of the virtual car as entertainment zone, and as the arena for a new literary genre, there are also the possibilities of the virtual car as

a networked workplace, a short-term hibernation space, and even as a back-up home to live in.

Notes

1 - Alan Cholodenko, "Speculations on the Animatic Automaton," in Alan Cholodenko, ed., *The Illusion of Life II: More Essays on Animation* (Sydney: Power Institute Foundation for Art and Visual Culture, 2007).

2 - Alan N. Shapiro, *Star Trek: Technologies of Disappearance* (Berlin: AVINUS Verlag, 2004).

3 - Marshall McLuhan, "Motorcar: The Mechanical Bride," in *Understanding Media: The Extensions of Man* (Cambridge, MA: The MIT Press, 1994) (originally published in 1964).

4 - Donna J. Haraway, "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century," in *Simians, Cyborgs and Women: The Reinvention of Nature* (New York: Routledge, 1991) (essay originally published in 1985).

5 - See, for example, Jacques Derrida, *Of Grammatology* (translated by Gayatri Chakravorty Spivak) (originally published in French in 1967) (Baltimore and London: Johns Hopkins University Press, 1976) (corrected English edition published in 1998).

6 - Gregory Bateson, *Steps to an Ecology of Mind* (with a new Foreword by Mary Catherine Bateson) (Chicago: The University of Chicago Press, 2000) (originally published in 1972).

7 - Gregory Bateson, *Esalen Center Lecture Series*.

8 - Paul Virilio, *Speed and Politics: An Essay on Dromology* (originally published in French in 1977) (translated by Mark Polizzotti) (New York: Semiotext(e): 1986).

9 - Paul Virilio, *Polar Inertia* (originally published in French in 1990) (translated by Patrick Camiller) (London: SAGE Publications, 1999).

10 - Bernard Tuchman, "Powering Up Cities for Plug-In Hybrids," <http://www.nyas.org/plug-inhybrids>.

11 - <http://www.centerpointenergy.com/home>.

12 - Walter Benjamin, *The Work of Art in the Age of Its Technological Reproducibility, and Other Writings on Media* (title essay originally published in German in 1936) (edited by Michael W. Jennings, Brigid Doherty, and Thomas Y. Levin) (Cambridge, MA: Harvard University Press and Belknap Press, 2008).

13 - Jacques Derrida, "White Mythology: Metaphor in the Text of Philosophy" and "Différance," in *Margins of Philosophy* (translated by Alan Bass) (Chicago: The University of Chicago Press, 1982); Jacques Derrida, *Specters of Marx, the state of the debt, the Work of Mourning, & the New International* (originally published in French in 1993) (translated by Peggy Kamuf) (London: Routledge, 1994); Jean Baudrillard, "Irreconcilability" and "Radical Exoticism" in *The Transparency of Evil: Essays on Extreme Phenomena* (originally published in French in 1990) (translated by James Benedict) (London: Verso, 1993); Jean Baudrillard, *The Vital Illusion* (edited by Julia Witwer) (New York: Columbia University Press, 2000).

14 - David F. Channell, *The Vital Machine: A Study of Technology and Organic Life* (New York: Oxford University Press, 1991).

15 - Alan Cholodenko, "Speculations on the Animatic Automaton," in Alan Cholodenko, ed., *The Illusion of Life II: More Essays on Animation*; op. cit.

16 - Bernard Tuchman, "Powering Up Cities for Plug-In Hybrids,"
<http://www.nyas.org/plug-inhybrids>.

17 - "Ithaca Aims to Be America's First 'Podcar' City,"
http://www.huffingtonpost.com/2008/10/13/ithaca-aims-to-be-america_n_134352.html

18 - Marshall McLuhan, "Motorcar: The Mechanical Bride," in *Understanding Media: The Extensions of Man*; op. cit.

19 - Theodor W. Adorno, *Minima Moralia: Reflections on a Damaged Life* (originally published in German in 1951) (translated by E.F.N. Jephcott) (London: Verso, 1978); p.40.

20 - Marshall McLuhan, "Motorcar: The Mechanical Bride," in *Understanding Media: The Extensions of Man*; op. cit.

21 - Donna J. Haraway, *How Like a Leaf: An Interview With Thyrza Nichols Goodeve* (New York: Routledge, 2000).

22 - http://en.wikipedia.org/wiki/Chevrolet_Corvette.

23 - <http://www.danaforrester.com/>.

24 - Jean Baudrillard, *America* (originally published in French in 1986) (translated by Chris Turner) (London: Verso, 1988).

25 - Paul Virilio, *Polar Inertia*; op. cit.

26 - Bill Gates, Nathan Myhrvold, and Peter Rinearson, *The Road Ahead* (London: Penguin, 1996).

27 - Jean Baudrillard, *The Intelligence of Evil or the Lucidity Pact* (originally published in French in 2004) (translated, with an Introduction, by Chris Turner) (Oxford and New York: Berg, 2005).

28 - In October 2008, Marcel Reich-Ranicki, the prominent German and Polish-Jewish "Pope of Literature" - widely regarded as the most important contemporary literary critic in Germany - refused the prestigious "ZDF Fernsehpreis" Television Prize that had been awarded to him. On stage at the awards ceremony, Reich-Ranicki verbally denounced the pitiful quality of today's German television programmes. Thomas Gottschalk, a major media personality, tried to save face for the German television industry by coming on stage and inviting Reich-Ranicki to debate the state of German TV for one hour a few evenings later. See <http://www.youtube.com/watch?v=KWuinyJgKew>.