10. The Virgin and the Dynamo: World's Fairs, 1851-1964

In 1900, at the Great Exposition of Paris, the historian Henry Adams underwent a special effect almost as a religious experience. The electrical dynamo on display terrorized him, as if he were facing an angry mountain god. This animated machine—the Baroque toy grown into a leviathan—had replaced nature itself. Planet Earth looked disappointing by comparison, spinning on its "old fashioned wheel."[1] This dynamo was the improved "new wheel," humming at "vertiginous speed," encased in forty feet of hardened steel. It transmogrified a few tons of grimy coal into supernatural energy.

Yet by 1900, it was a familiar miracle. On exhibit beside the dynamo was the steam engine, as usual, that big puffing thing. Adams sensed no fundamental schism coming. The dynamo would continue what the steam engine had started, perhaps speed it up. Adams did not assume that electricity would transmogrify capitalism in a thousand directions. The twenties and afterward would make that quite plain; 1900 was still early. Only the theatricality of the dynamo was stunning—a moment of wonder before this sculptural machine, like the automatons of the eighteenth century amplified a hundred times. Adams compared the dynamo variously to the cathedral at Chartres and to virgin cults, like the cult of the huntress Diana. He saw the dynamo somehow as a feminine mystery, like the worship of fertility, or of the chaste huntress—an "animated dynamo."[2] He assumed changes were coming; electrical things would amplify the "multiplicity" that he saw in cities. But beyond that, his crystal ball dimmed.

It is nearly impossible to guess what the new electrical leviathan might bring, even for critics with Adams's startling insight. It was still the unnamable, a great mystery. But it was also old hat. Bigger and bigger machines as miracles had been exhibited at world's fairs since London's Crystal Palace in

1851. The scripted message was panoramic—about the colossus of steel and energy—but also something else.

Historian Rosalind Williams, in her landmark study of Parisian world's fairs, noted the shift in how machines were exhibited. In 1889, the Gallery of Machines was "desecrated like a 'secularized temple.'"[3] Food products and displayed machines were mixed together, like an augur of supermarkets and Home Depots to come. Something like the commodification of machines on display was clearly emerging. This meant a theatricalizing of machinic space, drawing upon panoramas after 1850, as they added more machinic elements in front of the paintings—steam engines, steamboats, and mechanized metal characters on tracks.

New ways to stage the industrial were emerging. The decorous and frivolous were disappearing. In 1851, machines looked much more like accessories. They ornamented a drawing-room ambience, like other oddities from around the British Empire; they were freakish things still. Now machines on display had joined the much expanded entertainment culture. They suggested the growth in consumer marketing, and less about dime museums or exhibits traveling the circuit.

The space and presence of machines were changing as well. These engines on display developed a Wagnerian *gesamtkunstwerk*. They increasingly were staged alone in theatrical canyons, in evocations of factories and railroad stations. Some scrolling or gaudy filigree might still cover up the various machine parts; but even that was about to change. The engineering of the machine was exposed much more—as in dynamos. Colossal machines turned into sculptural labyrinths, awe-inspiring sculpture. They were automata grown to the size of rooms. They were filled with brilliantly cut but industrially made steel parts—no longer handmade.

Massive Exposure

Machines on display were becoming a kind of theater. They were the featured player in an industrial scripted space. The old decors (Baroque/Art Nouveau tracery) were swept away. These were great monoliths with nothing embracing them but blank space. The cult of the massive, so essential to the later shopping arcades in Cleveland, Milan, and Moscow, meant *exposed* space, as in massive new department stores after 1860; larger gaudier park displays after 1860; ever larger halls devoted to the machinic culture. And running parallel to these

scripted machinic spaces was the cult of motorized circulation. Even before the automobile took over, photographers and urban boosters concentrated on deep-focus boulevards. Increasingly, the displays at metro stations matched the gaudy store windows. At ever grander train stations, the foods and entertainment begin to grow into an afternoon circus.

Even before the nineteenth century ended, an industrial-strength scripted space was being rediscovered as an article of national pride, in world's fairs, in downtown monuments to imperialism and the state, in huge museums that echoed imperialism—all these sponsored publicly by the large "industrial" nation-state. Unobstructed space was a scripted myth about overcoming, and the limitless; and the promise that with each year, colossal machines would get even larger.

By 1900 (and certainly by 1913), dime-novel illustrators as well as architectural *fantaissistes*[4] (the Futurist Saint Elia as the most famous) both imagine buildings hundreds of stories high, with trains buzzing a half mile off the ground. Even Tatlin's famous tower (1920) was to exceed the Eiffel Tower, and be motorized in honor of Cubo Futurism, be an animated dynamo. The "vertiginous" as scripted theater was already fully imagined, even before the skyscrapers of New York were built in the twenties.

The special effect of modernism often suggested being over-whelmed by mass, and by the masses. Something very alien stared down at you, like King Kong off the new Empire State Building. It was both democratic and fascist. In science fiction magazine covers of the 1930s, it was a menacing robotized space station, often drawn in a parachute shape similar to London's Colosseum in 1829. Or it resembled Hugh Ferris's phantasmagoric architectonics (1929), his twenties New York imaginary city plan.[5]

This newer modernist space was often supposed to draw your eye upward, toward bottled light from a distant skylight. By the fifties, to look upward might literally generate a case of vertigo, invite you to get dizzy from a reasonably blank plaza, facing a glass curtain wall. This modernist vertigo turns into fantasy allegory: a monolith of some kind, as in *2001: A Space Odyssey*—the vertigo of modernist space as blank; both fertile and alienating, like deep space itself; at the edge of the solar system.

Empty space becomes both fertile and intimidating in modernist special effects, like an extension of Wagner's blackened gulf between audience and the lit stage at Bayreuth. The blank and unobstructed suggest absence as presence. This exposure was an invitation to add more special effects. After World War II, these modernist spaces were filled very quickly. They were scripted to meet the

consumer side of entertainment that continued to grow. Finally they become very busy scripts indeed, particularly after 1955.

The World as a Script

To fill these industrial spaces, scripts exaggerated the paradox between large and small, particularly at world's fairs. They themed their paradoxes around global imperialism between 1860 and 1920. They delivered the spoils of conquest in condensed form, the world in about three hundred acres, even in your pocket, if you bought the catalogue. They became laboratories for converting global industrialism into leisure.

At the Chicago World's Fair of 1893 (the Columbian Exposition),[6] architect Daniel Burnham designed what became a prototype for Coney Island, for Venice, California; and even Disneyland. The attractions were on an artificial island that looked verdant, surrounded by lagoons, with gondoliers from Venice.[7] George Ferris's Wheel dominated 264 feet above the grounds, for panoramic views, symbolizing a fundamental change in how illusions were tooled.

A cylinder and spindle mechanism, with takeup for "monkeyshines" (strips of photographs on a reel) had just been perfected by Edison (and Dickson).[8] It would realize Edison's dream of a visual phonograph; and compete as an automated magic lantern. Edison's new kinetoscope was announced for the Fair, but was first demonstrated at Johns Hopkins instead (May, 1893). Within a year, kinetoscope parlors opened in New York.[9] At the same time, this fair nearly bankrupted architect Louis Sullivan, because it resisted the look of the new skyscraper; and launched a Gothic revival Beaux Arts architecture that became standard in cities throughout the United States.

The Midway Plaisance was even more prophetic—a mile-long boulevard filled with entertainments, touches of burlesque, ostrich farms, a giant automaton, beer halls, animal shows, freak shows. This lineal innovation already suggested how easy it would be to script any urban boulevard into a carny, a consumer promenade. The alternative to the public sector had been a long time in coming, and now was formally introduced. In Venice, California, huge amusement piers would be added, as Midway Plaisances. Luna Park and Dreamland both featured a carny boulevard. It was a way to merge panoramic circulation with the entertainment economy that was quickly turning toward

consumerism, with advertising, boosterism, even fast food, and the remnants of Baroque illusion.

World's fairs pioneered a new industrial epistemology for public culture. In 1876, at the Centennial Exposition at Philadelphia, the attractions were classified in what became the Dewey Decimal System for libraries across the United States. It was here that Mr. Bell's telephone was introduced, as well as typewriters and mechanical calculators that soon became standard for offices. Many of the key artifacts were then gathered, as the basic collection for the Arts and Industry Building at the Smithsonian Institute.

Increasingly, world's fairs became a schizoid laboratory for contradictions within modernism, for anti-industrial nostalgia mixed with odes to untrammeled industrial expansion (especially Paris 1900, St. Louis 1904, San Francisco 1915, Chicago 1935). World's fairs were a strange marriage of geometric modernism and special effects. They were living proof that modernism was not removing special effects at all, merely building larger containers for grander illusions.

The career of master designer Norman Bel-Geddes is a classic story. He was born in the year of the Chicago Exposition (1893). He left college to work as a theatrical designer in New York, did inordinately well, even worked in Hollywood for a short time (1925). In 1927, he was invited to design illusions for the auto industry then by 1931 a "House of Tomorrow" for *Ladies' Home Journal* that helped launch the fad for streamlining (also the standard look in thirties Hollywood art direction.[10]

Bel-Geddes became the leading voice for streamlining in transportation. Speed lines and teardrops served as pauses on houses and airplanes, to exaggerate the illusion of speed. He designed cars, ocean liners, trains, made the news often. In 1932, his book *Horizons*, with its imaginary vehicles, inspired new models at the Union Pacific Railroad and at Pan American Airlines. But in 1937, his master stroke came as an advertisement for Shell Oil—the City of Tomorrow

This, in turn, led to his assignment at the 1939 New York World's Fair. He designed the General Motors Futurama exhibit, very much the hit of the Fair (in every history I find).[11] Visitors sat on a motorized platform, along a train 1,500-feet long, with about six hundred seats. A music and voice narration was synched differently for each passenger, as you took a panoramic "flight" over a river city in the year 1960, with seven-lane freeways, radio-controlled teardrop cars, and detailing equal to any panorama of the nineteenth century.

Clearly the major innovation were the freeways (often called parkways back then). Only the Arroyo Parkway in Los Angeles had already been built (1939—essentially opened during the year of the fair). Since 1934, various plans had been floated for a new superhighway system in the United States, as part of the master-planned escape from the Depression. Scale models for these guarded rights of way, at standard speeds over forty-five miles per hour were set up for many cities during the war years, the future on a tabletop (many of these are still in storage today).[12] The train set suddenly became a tool for "The World of Tomorrow" (the slogan for the 1939 fair). But Bel-Geddes's summation of Futurama, in his next book *Magic Motorways* (1940) caught the attention of President Roosevelt, and clearly was one of the blueprints for the freeway system after the war.

Oddly enough, Bel-Geddes's other exhibit at the fair was a burlesque peep show with mirrors ("Crystal Lassies").[13] Like many great industrial designers, he was at home scripting industrial illusion or de-signing a peekaboo erogenous zone. He worked comfortably for the movies, or designing industrial accessories. The line between industrial space and special effects was easy to blur, and today has become almost impossible to find.

Many keys to good theming were already in place at Futurama. The collusion between viewer and program was particularly brilliant—a blend of control and comfort, very well-articulated. Futurama "just tickled you,"[14] one visitor remembers. "You snuggled into the seat. They were partitioned, two seats, then a partition, like a box at the opera, your own private show—and then you got the lovely feeling of eavesdropping from your box seat as you winged it over the futuristic landscape.

"...The end was enormously clever. The last you saw of the diorama was a particular street intersection of the future, up close. Then the chairs curved and got you off, the futurama ride was over—and there you were at the precise intersection, life-sized. 'All eyes to the future,' the (recorded] narrator said."

You even got a souvenir button to pin on your clothing. It declared, even a bit ominously, given the war that had just started in Europe:[15] *I have seen the Future*. Attractions like Futurama (standard after 1939) were immersive journeys designed as flyovers, shrinking the world into a museum diorama, then seeming to parachute you onto the roofs somehow, as if the World of Tomorrow had been built while you were out on the road. Clearly, this was supposed to be a tonic against the Depression that refused to end. And that trope survived for decades afterward, as the scripting of reassurance, in themed environments throughout the United States. It pointed to the end of

chaos and carny as the roots of theming, toward a suburbanized clearing away of urban problems—displayed early on in Flushing Meadows, over a former garbage dump, what had been a "pestilential eyesore."[16]

The souvenirs pointed to another evolving feature in modernist special effects: it specialized in miniaturizing the events. We can see this already at the Crystal Palace Exhibition of 1851. There were dozens of movable books about the Crystal Palace, as well as anamorphotic maps, dioramic toys. The vast coverage in the press, particularly the wood engravings in vast inserts, shrank the world that already had been shrunk. The fairgrounds housed practically every racist platitude imaginable, in huts, in mini-villages, on display like automata. It was an imperial fantasy; then this fantasy became armchair tourism. Memory could be shrunken down like pieces of the cross, for pilgrims preparing to shop in the future.

World's fairs were trade shows essentially, selling the new styles, and building new taste markets. In 1939, the style of streamlining was everywhere, in the rocket train designed by Raymond Loewy, or in Henry Dreyfuss's Democracity (imagining 2039). But when the same location grounds were opened again, for the World's Fair of 1964, changes in style were very manifest.

Walt Disney was the featured player by 1964. He shrank modernist geometries into something like Italian Burattino puppets, for "It's a Small World After All." He found corporate sponsors for the Pirates of the Caribbean. Disney's animatronic Lincoln was the hit of the fair, the most special effect. Even Robert Moses was amazed. As the *New York Daily News* reported: "Those who have seen Lincoln 'come to life' are stricken with something akin to awe."[17]

Blurring the World of Tomorrow

Using 1964 as his laboratory Disney blurs three modes of industrial special effects into one. Since the late fifties, he has been planning a permanent world's fair as a theme park for a new suburban development, where people would live in a Disney theme park in Florida. For a time, "it" was simply called the XC Project, then EPCOT (Experimental Prototype Community of Tomorrow), to be part of Disney World in Orlando.

I open a Disney World souvenir book from 1986, turn to EPCOT. No one did actually move in, of course (not until the houses went on sale at Disney Celebration fourteen years later). The General Electric area at EPCOT catches my eye, called *Horizons*, like the title of one of Bel-Geddes's books. It is housed in

a building that resembles Vegas, a neon collage that somehow blurs the Vegas Strip with New York's Great White Way. It "looks like a gigantic gem,"[18] the ad copy reads. Inside this gem, Tomorrow does radiate security, a lovable paranoia. The family of the future lives underwater with robots.

Two influences come to mind. In both, the new theme is immersion as a renewed imperialism. First, at the extra modern Futurama in 1964, designed by Henry Dreyfuss, visitors travel underwater, to cities under Antarctica, where vacationers ride "aqua-scooters." Modernist capitalism will carve out new frontiers. Industry will mine the ocean, level the jungles, harvest the desert. Skyhigh cities will add even more circulation, until the sidewalks themselves will be motorized. The second influence is more retro: it harkens back to the Baroque Imaginary, to Disney's continuing fascination with Jules Verne's *20,000 Leagues Under the Sea*—as a movie and a ride. An animatronic Jules Verne, very much the Victorian gentleman, floats inside a plush space capsule reminiscent of Bel-Geddes's Futurama. He stands ready to colonize the moon.

"Pioneering visual effects show future cityscapes, space colonies, floating cities and desert farms."[19] In a habitat under the sea, children "equip themselves with recirculation gills for a field trip to an undersea kelp farm." Then through "Tomorrow's Windows," families thrive in movie sets, because outer space feels like an immersive movie. Indeed, eighties Hollywood evolved toward space operas anyway, often with a nod to Kubrick's *2001: A Space Odyssey* (1967). Sixties minimalist styling organically reappears in the design of home computers. The auto industry keeps promising more screens as well, shinier software, and "sleek prototype cars of the future."[20] Car interiors start to resemble jet cabins inside fighter planes. Scripted spaces from the sixties increasingly match the Cold War defense industry, like one of James Bond's cars.

Throughout the eighties, the Cold War was fading. In its place, high consumer theming won out. Even world's fairs stopped glamorizing missile defense systems. Finally, Disney's Tomorrowland was cancelled, like another aerospace contract. First, in 1994 at the new Disneyland Paris, instead of Tomorrowland, there was Discoveryland, brassy and bronzed with Belle Époque wonders—and hosted by an animatronic Jules Verne. Soon after, Tomorrowland was scrubbed at Epcot in Florida; and finally in 1998, at Disneyland Anaheim. In its place, a retro of Tomorrows arose like a cinnamon bun. Mechanical Jules Verne took viewers through Méliès Earth to the Moon (1903).

A news reporter surprisingly asked me why Disney was getting rid of the Future in Tomorrowland. I explained that "the future" was no longer a nostalgic

place. It didn't have the "weenies," as Walt would say. Besides, Disney was now on the DOW; it could be held liable for the Future. Disney knows better than to showcase a problem where they might be found legally or morally responsible. And most of all, the Future had turned drizzly anyway—very cyberpunk. In special-effects films of the nineties, Tomorrow was dank, infested with mutant cyber-snakes. Order had broken down. Warlords and cyclopian cyborgs battled for the scraps.

So, there was little point competing with that globalist doomsday. Even during the boom of the late nineties, the prognosis looked uncertain anyway, as if we had already "seen tomorrow." The great unraveling had started. The Future was simply not the happiest place on earth; and it was not modernist, not even very panoramic. It was occluded, with bad plumbing. The new order of things would not require world's fairs. The Electronic Baroque was too horizontal and hierarchical to take much stock in progress.

The future was increasingly a tough sell. From the gala opening in 1955, Tomorrowland (the worst budgeted area of the park) was always notoriously behind schedule; and often failed to deliver the extra rides it promised (on Disney's TV show no less). Monsanto's House of the Future warped into scandals about Monsanto producing Agent Orange for Vietnam. Even Autopia became an evil satire of gridlock on the freeway to Anaheim. Indeed, nothing ages faster than the future. You look at futuristic ad campaigns from a year ago, and the mascara is already cracking.

Better to return to the nineteenth century, where Main Street had started, to the history of the Future, as an Industrial Baroque Imaginary. And of course, Jules Verne was practically on the payroll already, with the Nautilus and Nemo. Wasn't it strange that years ago General Electric's slogan used to read: "Progress is our most important product." We grow jaded to that tomorrow. General Electric was now the largest transnational company in the world (2003). (Then reversal of fortunes: As of July, 2022, General Electric—unable to compete—is about to be dismantled and restructured.)

What then replaces the Future? Certainly in our Tomorrow (2003), world's fairs, theme parks, themed streets and malls are all close cousins within global tourism. Public tourist memories are then harvested as architecture. That is the 2003 Tomorrow according to the Electronic Baroque. Memory streams are literally archived digitally. Imagos—fragments from these streams—are then threshed by analytics and demographic research. Of course, selling memory has always been good business. That is very much the heritage of world's fairs. Collective memories are relentlessly portable. Any tent show is a travel-

ing memorial. But today, these memory bytes are increasingly "synergistic." They flit across markets quite easily, as a permanent world's fair about absentmindedness, a scripted mental blur. Gaudier special effects meet tighter demographics. And still, with all that, our tomorrows will mostly flop. I can feel it. Neoliberalism is flattening out.

The Grove

For 2003 in Los Angeles, the Grove is the hit of the season, very much a Disneyland version of a city street as a mall as a world's fair. Its 576,000 square feet—over fifty shops and a gaudy art-deco movie complex—are joined to the venerable Farmers Market (1934), a tourist destination that evolved from a site for trucking farming during the Depression. The Grove serves the densest core in Los Angeles, the Wilshire Corridor, certainly one of the most urban in southern California, with great demographics.

The building costs for the Grove were only $160 million, a pittance since it drew 13.5 million visitors during its first year of operation, a million more than Disneyland. Now it draws about twenty million people a year. Its developer, Rick Caruso likes being compared to Disney, "one of the true geniuses."[21] He wants his properties to have that "feel good" experience. A toontown trolley crosses "an old-fashioned street" echoing European cities as much as American small towns; and Frank Sinatra's swinging fifties as much as Disneyland.[22] It "is modeled after a grand old downtown with architectural facades inspired by the art-deco era of Los Angeles,"[23] "the thirties and the forties"—essentially the era of the 1939 World's Fair.

Its "mélange" of styles[24] turns modernist transportation into nostalgia. A facade that resembles a Victorian railroad station is enhanced by a mini-Victorian-trolley that runs by electric induction. The Midway Plaisance has been updated into a First Street retail spine quite similar to New Urbanism. That means a "smorgasbord" of styles: a town square modeled after courthouses in New England,[25] but with Italian touches. The store facades include "château ledge stone, granite, lacquered Douglas fir, patinated copper and bronze, wrought iron and brass accents, oiled hardwood planking and marble mosaic." The streets are "paved in porphyry, a costly Italian stone."[26]

Years ago, Rick Caruso had an epiphany along the Via Veneto in Rome. He saw buildings four hundred years old recycled for Gucci or Versace. He decided to "re-create" the look "of older buildings," as if they had been retrofitted for

fancy chain stores.[27] He would build a world's fair of shopping decors, what one critic calls a "walkabout cyclorama"—the name for American panoramas of the late nineteenth century—"a smiley-face simulacrum of America before snipers, before terrorism, before bio-warfare."

Caruso is even toying with entering politics. But he senses how disempowered politicians are these days, how weak any vertical system of politics has become. "I'm very frustrated by government," he explains. "I'm not sure I would last … because I'm much better as a dictator." According to Ray Bradbury,[28] there was a movement in the sixties to draft Walt Disney for mayor of Los Angeles. Disney is reported to have said: "Why should I be mayor when I'm already king?"

Probably the only part of industrial modernist special effects that is flourishing is the ride. An invention of the late nineteenth century, the Switchback roller coaster in Coney Island, the Ferris wheel at the Chicago World's Fair (and gloriously at the Prater amusement park in Vienna), the ride was a reenactment of the anxieties of urban life, of the hyper-stimulated city of 1900 that Henry Adams discusses. The ride was the dynamo as a bucking bronco, the machine taking you over the falls. The ride is sim-death, the ultimate industrial form of three acts in a few seconds. It has become the model for immersive special effects, as in the "ride" movie, and in video games of the late seventies. To achieve the ride is the ultimate compliment for any computer game.

So, the city of circulation has survived as immersive theater, or as shopping nostalgia, even while it loses its vertical connections to a powerful nation-state. The ride is what remains most of all: the player alone pretending to face the elements, inside a scripted space with a touch of theme park/world's fair/adventure movie.

At world's fairs, the Future was supposed to be the end of "history". But eventually time catches up. In Flushing Meadows, Queens, a tower left by the 1964 World's Fair stood in ruins for many years, visible from the highway. It resembled a radio tower in East Berlin, the dying embrace of the Cold War.

From the Dynamo to the Grove, modernist special effects suggest an ambivalence that fits our sense of the Future right now. The dynamo spoke for a vertical system of power, but our world is horizontal. It gets more miniaturized, rather than more massive. It specializes in the condensed, like a mini—world's fair, or a remote-control device, a "smart" cell phone, a hot installed inside our blood system, similar to the Body Wars ride at Disney/MGM Star Tours in Orlando. The visitor is miniaturized to the size of a pinhead, then injected into a patient; and on to a rescue mission. Something of the world's

fair has survived in these simulated industrial rides, large and small: the world pretends to come to you. Buckled in our seats, we never leave, only arrive.