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Cover Page Footnote

I am grateful to Julia Hildebrand for her close and critical reading of an earlier draft. The paper also benefitted from archival research at the Brooke Russell Astor Reading Room for Rare Books and Manuscripts at the New York Public Library.

Futurama: An Immersive Experience of America's Automotive Future

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Abstract

General Motors' Futurama exhibit at the 1939-40 New York World's Fair offered a wildly popular immersive experience of American automobility twenty years in the future. The Fair proclaimed the "Dawn of a New Day" in "The World of Tomorrow" through comprehensive innovative architecture and design, which promoted the primary role of new technology, especially in the field of transportation. Futurama harnessed techniques of theatre and multi-media in unprecedented ways. Its narrow aim was to foster the construction of new highway systems hospitable to the growing population of modern cars. More broadly, Futurama sought to inculcate a new way of thinking about an auto-centric future, with fast, safe travel at the core of everyday life. The paper examines how this remarkable socio-technical imaginary was constructed by Futurama in the context of the New York World's Fair.

Keywords

Futurama, World's Fair, socio-technical imaginary, auto-centric lifestyle, American car culture

It is an historical truism that what happens today was largely determined by yesterday's events. This is partly what William Faulkner (2011: 73) intended with his famous line, "The past is never dead. It's not even past." In the realm of innovation, the past is where preliminary imaginative work, persuasive activity, prototype experiments and plans about the future occur. When the future becomes today, claims for the uniqueness of the present moment can obscure its earlier determinants.

The golden age of post-war American car culture, not least auto racing, has such a dazzling quality that influential inter-war precursors and exponents can be lost from sight. Years of total war intervened, of course, when normal automotive life was effectively abolished. World War II put the hopes of the pre-war future on hold, but many cultural features of the twenties and thirties set the stage for automotive resurgence from the late forties onward. For example, by the 1930s, stock car, dirt track and drag racing were well established in the US (Gray 2020). Hollywood celebrities were pictured with their exotic automobiles, like Greta Garbo in her Duesenberg and Clark Gable in his Packard, while auto manufacturers routinely placed their products in movies (Walton 2010). *Metropolis* (1927) and *Things to Come* (1936) depicted "grandiose systems" (Borden 2013: 120) of elevated or underground highways. Automotive film advertisements shown in theatres during the 1930s emphasized the car's appeal for working class Americans (Benson 2015). Commuting was becoming a familiar social practice. Suburbanization – Frank Lloyd Wright's Broadacre City concept, planned garden cities and 1920s roadside strip development – made the car indispensable (Hayden 2003). Architecture increasingly designed around the needs of the automobile, including the evolution of the residential garage (Jennings 1990) and the complex intertwining of cinemas and the car (Valentine 1990). Popular literature celebrated automotive adventures, while people increasingly took their vacations by car (Mom 2015). Travel trailers and drive-in movie theatres were invented (Volpi 2004: 83-84). American visual artists

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often depicted the social dislocation of the Depression in terms of the automobile (Smith 2012), and blues singers employed the car as a symbol of “freedom and unrestricted mobility” (Heitmann 2009: 115).

Perhaps the era’s single most visible and influential anticipation of post-war automobility was the Futurama exhibit in the General Motors Highways and Horizons pavilion at the 1939-40 New York City World’s Fair. Thirty thousand people visited Futurama daily (Fotsch 2001: 65). It was the most popular exhibit of the entire Fair and a national media event *avant la lettre*.

Futurama is significant to American automotive history as a highly publicized, large-scale diorama that promoted an auto-centric world 20 years into the future. It accomplished this advocacy in three ways. As an exhibition, Futurama was a remarkably detailed, material construction of American towns and cities, characterized by fast traffic safely flowing over superhighways that also served to protect the charms of daily life from the disruptions of speeding vehicles. As an experience, Futurama invited Fair goers into a multi-media, immersive environment offering a seductive glimpse into otherwise barely imaginable future automotive travel. And as a vision, Futurama put the car and highways squarely at the center of a new, desirable, technologically advanced way of living that could be achieved by taking forward-looking actions in the present moment.

Whether Futurama accurately depicted what America actually came to be in 1960 is less important than its dramatic idealization of automobility in 1939-40. Futurama was propaganda on behalf of the interests of the automotive industry and government. But it was not necessarily a lie or a distortion or an outright manipulation. It tapped into widely held popular beliefs and motivations that were at once political, economic and aesthetic, and which together were familiar features of American national self-identity. Futurama’s timing was crucial as well: it occurred at the end of the Great Depression and the beginning of World War II. Its shadow was so long that aspects of Futurama were recapitulated at the 1964 New York World’s Fair (Dickstein 1989).

Futurama concretized various and sometimes competing social attributes like quick, efficient travel; domestic arrangements in a built environment of single-family homes; unsullied nature; the possibilities of unlimited economic expansion in a universally middle-class world. Assembling them so triumphantly – and in the context of a gigantic, elaborate World’s Fair that uniformly presented a similar message – created a kind of collective hallucination about the real possibilities of the good life, organized around the modern automobile, a future that would transcend the deprivations of the decade-long Great Depression. As GM put it in a brochure for Futurama’s “guests,” Futurama “sought to show you what is possible for the future – what *can* be done – what this country of ours *may well be like* one day,” especially “the part highway development can play in bringing us a finer and richer America” (General Motors 1940, emphasis in the original).

The paper makes this case by first introducing the 1939-40 New York World’s Fair as an historical spectacle with uniquely compelling properties. Next, the paper presents its analytical approach, which synthesizes Sheila Jasanoff’s notion of socio-technical imaginaries, the process of mediatization and its manifestation in media events and the world-making dynamics of world’s fairs. The paper then explores the Futurama exhibit and its place in the Fair’s Transportation Zone. The paper concludes with a summary analysis of Futurama as an influential antecedent of post-war American car culture.

The New York Fair and Its Times

The 1939-40 New York World's Fair, "Building the World of Tomorrow," followed Chicago's 1933-34 self-celebration of a "Century of Progress" and local and regional fairs in San Diego, Dallas, Cleveland, Miami and San Francisco. Though officially marking the 150th anniversary of George Washington's inauguration in New York City as America's first president, it was, says Roland Marchand (1992: 23), the climax of the decade's increasing corporate investment in "promotional display." During the Fair's complicated and contentious gestation, which began in 1935, its purpose shifted from "societal reform to consumer education." This emphasis, according to Pieter van Wesemael (2001: 489), was "embodied in the celebration of commercial exhibitions," a triumph of the influence of the newly emerging field of industrial design. The Fair's official theme song, "Dawn of a New Day," recorded by Horace Heidt and his Musical Knights, includes the lyrics, "Better times are here to stay, as we live and laugh the American Way! Listen one, listen all, there can be no resisting the call! Come, hail the dawn of a new day!"¹

An extraordinary undertaking, even the Fair's heavily publicized construction process became "a media event" (van Wesemael 2001: 498). The Fair covered 1000 acres of reclaimed land, cost the equivalent of \$3 billion (and lost \$320 million), was opened by President Franklin D. Roosevelt and was visited by nearly 45 million people. Exhibitions represented about 30 countries, 20 corporations and 15 American states, regions and cities. The 300-acre amusement zone, the Great White Way, counted about 60 attractions; its biggest attraction was Aquacade, a Busby Berkeley-style swimming extravaganza that featured two Olympic stars. There were also freak shows, a tethered parachute jump and burlesque shows like Crystal Lassies.² Morris Dickstein (1989: 23, 28) says the Fair "cast a spell which is still vividly remembered," achieving "its near mythical status." He also quotes a reviewer of the time who called the Fair "the paradox of all paradoxes . . . it was the acme of all crazy vulgarity, it was the pinnacle of inspiration."

Due to the influence of the industrial designers, the overall design of the fair was modern, or at least a "beaux-arts moderne" that combined streamlining and art deco. The fair's design guidelines stipulated that no intimations of historic architecture would be permitted. Raymond Loewy, Walter Dorwin Teague, Henry Dreyfuss and Norman Bel Geddes designed the fair's layout and many of its most important buildings.³ The General Motors building, called Highways and Horizons, its landscaping and the Futurama exhibit within the building were all at least partly

¹ For photographs of the Fair, see Cosgrove (nd), Taylor (2013) and Snyder (2018). The New York Public Library has an extensive archive, some of which is digitalized <https://digitalcollections.nypl.org/collections/new-york-worlds-fair-1939-1940-records#/?tab=navigation>. Maps of the Fair can be seen at <https://omeka.hofstra.edu/exhibits/show/new-york-worlds-fairs/maps-of-the-1939-and-1940-new->

² Crystal Lassies, designed by Norman Bel Geddes, displayed a single spotlighted female dancer in a multiply mirrored room (Cogdell 2000: 213). See also <https://norman.hrc.utexas.edu/nbgpublic/details.cfm?id=308>

³ The architect Alvo Aalto and the artists Alexander Calder and Stuart Davis also contributed to the Fair. Albert Kahn was the architect for both the Ford and General Motors buildings; Eero Saarinen worked on the latter.

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Bel Geddes's work.⁴ He was a "self-trained polymath and expert in almost every art and craft, from cartooning to architecture, theatre to furniture design [who] fervently believed that stylish consumable design and ingenious city planning could improve the American way of life. He was a futurist with a pragmatist's mind, the pundit and engine of change" (Heller 2012). Geddes's innovative work in theatre directly informed Futurama. His designs abolished the "fourth wall" that separates performers from audience by constructing stage sets, such as the interior of a cathedral, that included the audience, using glass floors, fog and lighting; actors moved among audience members while changing scenery. Alexandra Szerlip (2016: 74) calls Bel Geddes's 1924 production of Max Reinhardt's Broadway play *The Miracle* "a multimedia, virtual reality experience forty years before either concept would go mainstream." Bel Geddes worked on Cecil B. DeMille and D.W. Griffith movies and two Gershwin musicals. His path-breaking department store window displays were "simple, theatrical, narrative, almost dreamlike" (Szerlip 2016: 118). He even designed automobiles, in 1926, that included a tear-drop shaped, rear-engine model; another was aerodynamic with driving lights that turned with the wheels and, for the first time, featured white-wall tires (Szerlip 2016: 115-117). All this experience would come to fruition at Futurama.

In scope and scale, the New York World's Fair was a spectacle: "Everywhere at the World's Fair the world was reduced to tiny size by the cunning and ingenuity of builders and engineers. And then things loomed up that were larger than they ought to have been," reports the child-narrator of E.L Doctorow's novel, *World's Fair* (1985: 254). The fair was a systematically constructed future-place where one could enter soon-to-be-realized modernity – the "next modern" (Rydell 2010:18) - imagined by major corporations and governmental authorities. And future automotive travel was the main event.

By 1939, the Great Depression was coming to its end. Income increased sharply, and consumer spending followed (Gordon and Krenn 2010: 10). There was still significant unemployment, however, and while war in Europe had ominous implications for the United States, the domestic economic stimulus of military expenditures had yet to begin in earnest. Polling in 1936-37 showed general hopefulness, with about half of adult Americans expecting improved business conditions and six out of 10 believing that conditions for getting ahead were improving (Allen 2010). Depression-era popular culture was an everyday influence that can hardly be overstated. Dickstein (2009: xviii) puts it this way: "The transitions from vaudeville to radio, from silent film to talking film, from live music and sheet music to recorded and broadcast music, all gave impetus to a more pervasive popular culture that reached a huge new audience. Because they were ready-made for propaganda, these forms of communication also proved a boon for. . . creative advertisers." It was an era when, writes Dickstein (2009: xix), popular culture "at once deflected people from their problems and gave them vicarious experiences, an alternative world, that could help them bear up." Despite the sufferings of the Great Depression, the thirties produced "the most buoyant, most effervescent popular culture of the twentieth century. . . [offering] wit, energy, class, style and movement. . . to people whose lives were stagnant, fearful, deprived of hope." For Hollywood, 1939 was a banner year whose releases included the blockbusters *Gone with the Wind*, *Mr. Smith Goes to Washington* and *The Wizard of Oz* (King 2014). One estimate is that 85 million

⁴ Bel Geddes (1940: 3) wrote about Futurama's popularity that, "There have been hit shows and sporting events in the past which had waiting lines for a few days, but never before had there been a line as long as this, renewing itself continuously, month after month, as there was every day at the Fair."

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Americans went to the movies each week (US Census Bureau 2014), spending the equivalent of more than \$12 billion dollars annually.⁵ The design and the popularity of the World's Fair drew directly from this widespread sensibility.

Sociotechnical Imaginaries

When a desirable future is widely understood, through forms of institutionalized public reasoning and performance, to be attainable by means of science and technology, it constitutes a sociotechnical imaginary, according to Jasanoff (2015). This projection into the yet-to-be rests on a sense of continuity with a remembered though possibly mythological past and the present. The entire process is discursive but equally embedded in the routines of daily life and in material objects. Altogether, Jasanoff (2015: 322) says, these are “world making” practices.⁶

Ideas, actions and material culture are at play here. While some individuals or groups may be favorably placed to look ahead, there must be a “foretaste of change” (Jasanoff 2015: 327) available to most people. This might include identifying dissatisfaction with present conditions. Possibly best able to promote world making are related political-cultural projects of “national building and the reaffirmation, or reperformance, of dominant national identities.” The media are part of this, helping to elevate “some imagined futures above others, according them a dominant position for policy purposes.” These dynamics, which resemble a “master narrative,” produce “dreamscapes of modernity,” which both foster possible futures and foreclose others (Jasanoff 2015: 335, 4, 20, 338). During the thirties, futurism became an entertainment genre, an “amusing or exciting fantasy” that was widely available in sci-fi pulp magazines, comic books and radio programs. Eventually, Joseph Corn and Brian Horrigan note (1984: xiii), “fantasy became part of the common coin of discourse on technology, science and the future,” providing the common currency for an emerging socio-technical imaginary regarding future automobile travel.

Mediatization and Media Events

The critical role of media is summarized in the term mediatization, which refers to the long-term process by which various domains of social life “become inseparable from and dependent on technological processes and resources of mediation” (Jansson 2013: 281). Mediation here is not limited merely to re-presentation or an unavoidable getting-in-between an object or idea and the experience or knowledge of it. Rather, it includes subordinating “the previously powerful authorities of government, education, the church, the family and so forth,” which recasts general historical development as moving “from nonmediated to mediated” (Livingstone 2009: 6). Such a shift in power is explained by the “strong version” of mediatization, which contends that other institutions grow not only to depend on media to perform their functions, but, crucially, they alter their own behavior to accommodate media needs (Ampuja, Koivisto and Väliveronen 2014).

In 1939 America, the principal mass media were books, magazines, daily newspapers, commercial network AM radio and Hollywood films. Their audiences were big, heterogeneous and lived across large-scale geographies, metropolitan and national. There were also ceremonial and ritual events whose significance or size made them the subject of prominent, sustained or

⁵ In 1940, the US Census counted about 67 million people above the age of 18 (United States Census Bureau n.d.: 12).

⁶ One kind of world being made is summarized in the arresting slogan of the Hall of Science at the 1933-1934 Chicago World's Fair: “Science Finds; Industry Applies; Man Conforms.”

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regularized mass media attention. These included the political (a presidential inauguration, say), sports (the baseball World Series, championship boxing), the religious (evangelical “crusades” or the selection of a new pope) and entertainment (traveling circuses, Broadway theatre, operatic and symphonic performances). A foremost quality of such events shared by world’s fairs is that while they are distinct from media per se, according to Risto Kunelius and Hillel Nossek (2008: 255, 256), they “orchestrate their actions by anticipating media coverage. In that sense, their action is dramaturgically defined by the logic of media representations or spectacles.” In addition, Konelius and Nossek observe that dramatic news stories are often collaboratively framed by the whole media system, which then shapes the public response to the event and “its subsequent public memory” in a way that can be surprisingly uniform. Journalists may act as members of an imagined community that includes the audience. Together they collaborate in constructing a dominant narrative about the event, a highly ritualistic enterprise.⁷ Daniel Dayan and Elihu Katz (1992: 5), whose original concern was televised media events, believe that media-event coverage constitutes an identifiable genre, one that is above all not routine, is in fact an interruption of regular media operations and daily life. Media events are for Dayan and Katz experienced as an unanticipated rupture of normal life, when they are sometimes the performative result of planning and rehearsal. And, as Katz (Katz and Dayan 2018: 151, emphasis in the original) says, a media “event WANTS to be an historic occasion, if not a transformative one, at least a memorable marker of change, or a model for subsequent events.” Media events may have an outcome that is mutually desired by their organizers and by the media that publicize them: this is the construction of “reality in specific and perhaps conflicting ways, in order to establish certain discursive positions and to maintain power” (Hepp and Krotz 2008: 267).

To the agents of symbolic power in 1939 must be added advertising, which exerts another means of discursive power in shaping commercial media-depicted realities. Advertising of the twenties and thirties, says Marchand (1985: xvii, xxi), was a distorting, “fun-house” mirror of social reality, partly a response to “consumers’ desires for fantasy and wish-fulfillment,” for “life as it ought to be.” Marchand quotes the claim of an advertising industry magazine that consumers “want to live in a more exciting world” and says advertisers considered themselves “missionaries of modernity” whose ads emphasized “styles, classes, behaviors and social circumstances that were new and changing.” Because commercial media operate, in significant part, to attract advertising, and because media-dependent events require favorable media coverage, there is bound to be an intermingling of interests among media events, the media themselves and commercial advertisers.

The 1939-40 New York World’s Fair was a gigantic media event. Its organizers and supporters, powerful members of industry and government, including President Franklin D. Roosevelt, intended from the start to create a physical presence and activities, both at the fair and in conjunction with it, that would insure cooperative coverage by most of the mass media; to harness media – broadly construed to include architecture and design, lighting and sound as well as mass media – as integral aspects of the fair’s enticing presentation of the future; and to make new media, not least television, a featured subject. The fair’s major exhibitors based their products of the future squarely on scientific progress abetted by the glamor of science fiction-influenced showmanship. Corporations like GM, Ford, Chrysler, GE and AT&T had propriety technical

⁷ Here Kunelius and Nossek are discussing what they call negative events like terrorist attacks, but the dynamic seems similar for other kinds of media events like world’s fairs.

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knowledge about the future their efforts were actively shaping. At the fair they were eager to put it on display and invite the public into their expert and commercial enthusiasm.

The fair, then, was an example of mediatization operating as a primary engine in the construction of a 1930s American sociotechnical imaginary, especially regarding the future of transportation in general and the automobile in particular.

World's Fairs and World-Making

Since the mid-19th century, there have been more than 30 world's fairs and many smaller-scale, thematically organized expositions. Pieter van Wesemael (2001) calls them didactic phenomena, sites of "instruction and delight." These dramatic spectacles articulate "national versions of modernity," according to Robert Kargon (2015: 3) and his colleagues, who also link this function to "radio, cinema, print media, monumental architecture, staged public events and elaborate funerals of public figures."

While some fairs and aspects of others looked backward to admire past accomplishments, the dominant approach has been to celebrate a near-utopian future built on the modern project of scientific and technological innovation. According to Corn and Horrigan (1984: xiii), world's fairs have been opportunities for people to directly experience for the first time such fantastic, futuristic technological developments as television, moving walkways and X rays. In addition, the fairs' "architecture and parklike settings . . . along with their sometimes visionary schemes for public and private transportation, have influenced the ways our cities and small towns look and the way we behave in them." The chance to meet the future head on has been enormously popular. From the Philadelphia Centennial International Exhibition of 1876 until the 1984 Louisiana World Exposition, about 230 million visitors attended American world's fairs (Rydell et al. 2000: 1-2).

The contribution of science fiction to predictive dynamics like sociotechnical-imaginary world making requires clarity about science fiction itself. It is a big church, including speculative nonfiction with fictional elements (Heinlein 1947). But its primary feature seems to be adherence to plausible speculation, rooted both in scientific knowledge and a logical story structure. This "hard science fiction" stands in contrast to fantasy literature, which is characterized by magic, mystery and the supernatural. This is not always a neat distinction historically: Christopher Menadue and his colleagues (n.d.: 16) say that turn of the century magazines devoted to "fantasy, horror, thriller and detective stories" had "science fiction" in their titles. Andrzej Zgorzelski (1979: 298) identifies two still older genres, the utopia and the Gothic novel, as science fiction precursors.

One of the more extended ruminations on the nature of science fiction views it as a "mythology of the future." Tom Lombardo (2015: 5, 8, 17) considers it nothing less than "the most visible and influential form of futurist thinking in contemporary popular culture." Done well, Lombardo says it "creates fully realized, multidimensional visions of the future." Science fiction, he argues, is "more than simple story telling; it is an exercise in imagination, critical thinking, hypothesis testing, trend extrapolation, scenario building, ethical evaluation and even planning . . ."

Lombardo (2015: 17) and Zgorzelski (1979: 301) agree that science fiction in the late thirties and early forties was especially important, on the one hand producing classic examples of science fiction as future studies and on the other magazines like *Astounding Science Fiction*, *Future Combined with Science Fiction* and *Science Fiction Quarterly*. H. Bruce Franklin (1982: 38, 40, 47) sees the 1939 volume of *Astounding Science Fiction* as the beginning of a Golden Age of American science fiction writing, when it had "moved close the center of American culture."

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And he claims that the “principal form” of science fiction in 1939 was the New York World’s Fair. “A fair billing itself as the World of Tomorrow may be considered just as much a work of science fiction as a short story or a novel, a comic book or a movie.” Franklin recalls Futurama as “the salient feature in the memory of every person I know who was there.”

Historians and others have taken several approaches to understanding world’s fairs: hegemonic (support for the nation-state), counter-hegemonic (challenging women’s stereotypes), documentary, various written accounts (fiction, official literature, popular accounts) and so on (Rydell et al. 2000: 5-7). Two of the most interesting are the anthropologist Burton Benedict’s speculative analogy with the potlatch and Warren Susman’s historical analysis. The official post-mortem of the New York Fair adds a third, undisguisedly pragmatic appraisal.

Benedict (1983: 2, 5), who organized a museum show on the 1915 San Francisco Panama Pacific International Exhibit, introduces the accompanying book by calling world’s fairs “display cases” for mass produced products that also sell ideas about “an ordered world” that helped form middle class taste. “People were to be educated about what to buy. . . to want more things, better quality things and quite new things.” World’s fairs, Benedict says, “presented a sanitized view of the world with no poverty, no war, no social problems and very little nature.” Fairs offered “idealized consumer cities within their walls” that “promulgated a whole view of life.”

As a “mammoth ritual,” world’s fairs remind Benedict of potlatches (1983: 6-12). These are ceremonies of status display through gift giving by Native Americans in the Pacific Northwest. Benedict finds several similarities: both potlatches and world’s fairs are held on ceremonial grounds or in purpose-built buildings; rivals are expected to participate; the goods on display symbolize relative wealth and the aspirations of exhibitor and viewer; both are meant to impress, through gigantic scale and miniature, detailed models; and potlatches and world’s fairs involve destruction – as a means to shame tribal rivals and to obliterate the temporary grandiosity of fairs’ built environment.

Susman (1983: 6, 4) suggests that modern fairs give visitors a chance to step outside the confines of daily life and into a festival that offers “a vantage point somewhere between past, present and future . . . that leads to an acceptance and participation in a new social order that is emerging technologically, socially, culturally, politically.” In contrast to past straitened times, the new order would be based on “principles of abundance, self-fulfillment and unlimited possibilities.” Susman also describes modern fairs as among the first modern media events: by their nature, they are newsworthy. So, even people “who did not attend them in person came to experience them secondhand” through widespread media attention, especially photographs, including those taken by amateur photographers, whose efforts at the New York Fair were actively encouraged by the Fair’s management (Susman 1980: 22).

From the perspective of the organizers of the New York Fair, these abstract characterizations were grounded in practical considerations. Ed Tyng, who had a 40-year career as a reporter and editor covering New York City business and financial news, wrote the official book-length reflection on that Fair. There he makes two important points. World’s fairs are, Tyng writes frankly (1958: 11, 12), “the shows of shows, usually occupying more space . . . than any other public spectacle. They attract the largest paid attendance, require the largest capital expenditure . . . and offer a variety of continuous entertainment on a scope that cannot be equaled by any private individual enterprise. . . [A] cardinal principle of every fair is to have enough unusual, varied and preferably ‘revolutionary’ spectacles and entertainment to attract masses of people.” The main objective of the organizers of such an enormous undertaking is “to bring about an improvement in business and trade. [Fairs] are often held in periods of poor business or acute

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depression. They are designed to advertise to the whole world the nation, state and city in which they are held; to give the throngs who visit them an understanding and a consciousness of new developments and improvements in accepted things in everyday use, and to sell new products.”

The Transportation Zone: Setting Futurama’s Stage

The New York Fair was organized by subject areas or zones: communication (AT&T, IBM), community interest (fashion, religion, home furnishings), food (Borden’s Dairyland with mechanical cow-milking, Kraft processed foods and numerous restaurants), government (countries and states), production and distribution (US Steel, Westinghouse, Dupont), amusement, or the Great White Way, and transportation. There were seven major buildings in the transportation zone, the big three US auto makers (Chrysler, Ford and General Motors), two principal tire manufacturers (B.F. Goodrich and Firestone) and buildings devoted to aviation and railroads. The largest building at the Fair, the railroads pavilion, included the theatrical presentation, “Railroads on Parade,” with music by Kurt Weill, that chronologically “showed the magnificent progress of rail transport in America for the past 110 years” and demonstrated that it was still “in the full flush of health and strength; it looks forward, not backward.” The building also included displays of early engines and the newest locomotives, dioramas by Raymond Loewy and a scale model with 3800 of track feet representing railroads at work.⁸ The dramatic aviation building, designed by William Lescaze, celebrated the “Wings of America” with a stylized hangar from whose roof hung commercial aircraft (Madlener 2015). The Goodrich exposition included its Safety Arena, where stunt drivers entertained, and where from a 90-foot tower a guillotine fell on - and bounced off - Goodrich tires. Firestone displayed the tire factory of tomorrow, “a life-size farm and a diorama of a Liberian rubber plantation.” Evening concerts took place against lighted fountains whose rising, falling and coloration were controlled to “accentuate the varying wave lengths of the music” (Wood 2004: 63).

Entering the Ford building, Fair visitors encountered Henry Ford’s first engine, from 1893, his first car, from 1896, and the company’s first model, built in 1903. Further along, the pavilion featured Walter Dorwin Teague’s Cycle of Production, a rotating exhibit showing how 27 raw materials became an automobile through the labor of 142 human figures, accompanied by music and narration. The half-mile long Road of Tomorrow, including a spiral ramp, circled the pavilion. On it, Fords, Mercurys and Lincoln-Zephyrs, in a yellow, blue and red sequence, carried 16,000 visitors daily, totaling 4 million by the end of the Fair. Future roads, said the official Ford brochure, would have “no intersecting streets, no traffic light delays. They [will] separate local and express traffic, or separate all motorized traffic from pedestrians.”⁹

Raymond Loewy designed Chrysler’s exhibit, which included a 3D movie that revealed every stage of the making of a 1939 Plymouth. According to Jonathan Woodham (2014: 372, 371), this was the first such 3D viewing by a large audience – in fact, 1.5 million people saw it. The black and white film ran 15 minutes and required that viewers wear Polaroid glasses. A Technicolor version followed in 1940. Loewy also designed a Rocketport of the Future for Chrysler, where the launch of a London-bound passenger rocket could be observed, “signal lights blinking, warning sirens sounding, machinery humming, while futuristic liners, trains, buses and automobiles discharge voyagers. When the moment of departure nears, a crane equipped with a

⁸ This information is taken from the “Railroads on Parade” program, reproduced at https://www.1939nyworldsfair.com/RR_on_Parade_Book/RR_on_Parade_Book.aspx

⁹ https://www.1939nyworldsfair.com/worlds_fair/wf_tour/zone-6/ford.htm

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magnet picks up the rocketship, and, as the breech of the rocketgun opens, deposits the vehicle of the future in the gun. After an interval, the gun discharges and the rocketship appears to be winging its way into the stratosphere.”

Auto racing made its only appearance a few weeks before the end of the Fair, in October 1940. The New York Grand Prix, the last race organized by the Automobile Racing Club of America (ARCA), was run through the streets of the fairground (O’Neil 2011: 11). The next day’s *New York Times* failed to report race results, despite a lengthy story on the near-record crowd attracted by Newspaper Day’s reduced entry fee.¹⁰

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The attraction of the General Motors building, called Highways and Horizons, Bel Geddes wrote, lay in giving visitors “a dramatic and graphic solution to a problem which they all faced . . . the complex tangle of American roadways.” Christopher Innes (2005: 130) says the building’s “sleek, curving shape, sweeping upward [was] like a monumental transport machine . . . The sinuous, elevated and multilevel ribbons of the entryways echoed what awaited the spectators inside.” Visitors took hours to ascend five storeys, and then descend through Futurama. The building’s windowless exterior was a glossy gray, reflecting light and suggesting an aircraft’s aluminum body. Szerlip (2016: 238) believes the design anticipates aspects of Wright’s 1959 Guggenheim museum, Saarinen’s 1962 TWA terminal at New York’s Kennedy airport and even Gehry’s 1997 Balboa Guggenheim museum. For visitors, the atmospheric, theatrical effect was immediate: a darkened, blue-lit passageway beneath a gigantic map of the United States led to Futurama, where upholstered chairs swept 552 spectators along an 16-minute, one-third mile winding ride that offered a view of 24 hours in the life of the City of Tomorrow.¹¹ Adnan Morshed (2004: 75) describes “a masterful manipulation of light, sound and color [which] created the illusion of an aerial journey [at 10,000 feet] over the varied and meticulously crafted terrain of an American utopia.” Speakers in the chairs provided “a quiet, intimate voice – as though of a friend talking at his shoulder” (Marchand 1992: 31). Bel Geddes called this pioneering technology The Polyrheter.¹² Visitors heard the voice of a Mercury Theatre actor say, according to text in the GM brochure, “Futurama,” “What wondrous changes and improvements have developed in our national highways!” One example is the “1960 express Motorways . . . a one-direction highway, with its seven lanes accommodating traffic at designated speeds of 50, 75 and 100 miles an hour.” It benefits from “a traffic control tower, from which efficiently trained experts advise drivers by radio control signals when and how they may safely move from one traffic lane to another.” Altogether, such highway progress creates “new horizons of a country’s welfare and happiness.” The end of the journey arrives at “an American city replanned around a highly developed modern traffic system.” The time traveler comes to an intersection, actually the last stop, then exiting to a

¹⁰ On race day, the *Times*’s regular feature listing daily Fair events noted that at 10 AM, “World’s fastest racing road cars race on course ninety-three miles long in Foreign Area of the World’s Fair grounds. American, French, Italian, British and German machines capable of over 200 miles an hour compete in Grand Prix Style” (Program, 1940).

¹¹ Sources describe the ride as 15 and 18 minutes long. Bel Geddes (1940: 3) says 16.

¹² Szerlip (2016: 249) reports the *New York Times* devoted an entire page to describing its intricate workings. She offers a richly detailed chapter to Futurama (Szerlip 2016: 213-251); see also Innes (2005: 119-143). Szerlip and others identify the basic model’s origins in a 1936 Bel Geddes’s ad campaign for Shell Oil. Bel Geddes first pitched his Futurama idea to Goodyear, which rejected it.

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full-size GM “automobile display salon” with several of the company’s current models. Visitors left wearing an “I Have Seen the Future” pin.

Bel Geddes’s Futurama was a massive and extraordinarily detailed model.¹³ Designed using photos taken from the air and topographic maps, it covered nearly one acre and included half a million buildings and more than one million trees. There were wisps of clouds made from chemical vapors, and nine colored lights simulated time of day. The appearance of moving headlights was mimicked through “lines of fluorescent pigment activated by pulses of ultraviolet radiation, and in one town alone there were 500 miniscule ‘grain of wheat’ bulbs for the street lighting” (Innes 2005: 133). The conveyor-belt ride carried its riders up when crossing a mountain range and circled down for a closer view of the city. The scale of the model cars – futuristic, rear-engined teardrops, similar to Buckminster Fuller’s 1933 Dymaxion car and patented by Bel Geddes, who anticipated their eventual manufacture - changed to encourage this illusion. This breath-taking view of America’s transportation future came at a cost to GM. Bel Geddes’s original budget was \$2 million; the final cost was \$7 million (\$131,000,000 in 2019).

In addition to Futurama and the display salon of 1939 automobiles, the GM exhibition included the Casino of Science stage show, a Research Laboratory with robotic “miniature figures of famous inventors in ‘authentic’ settings” (Innes 2005: 123) and a Pontiac with a transparent body, as well as the half-hour film “To New Horizons.”¹⁴ The film, which begins in black and white and switches to Technicolor when the subject changes from establishing the steady historical quest for progress, the “restless search for new opportunities and new ways of living, the mystery and the promise of distant horizons . . .” – to arrival at Futurama. In the film’s narration, voiced over alternately swelling and bouncy mood-setting orchestral music, highways are the insistent metaphorical and literal requisite for continuing progress. The viewer is left with this message: “Every forward outlook reminds us that all the highways of all research and all communication, all the activities of science lead us onward to better . . . ways of living.”

“I Have Seen the Future”

Futurama – in its larger contexts of the GM Horizons and Highways building, the Transportation Zone and the grand World’s Fair spectacle of the World of Tomorrow – presented a palpable vision of future automotive travel through the process of mediatization. Futurama created an immersive, multi-media experience that drew on the dramatic tropes of architecture and design, theatre, radio, motion pictures and even some elements of an amusement park. Using sophisticated media and media-related technologies of its day, Futurama was a surprising precursor of Baudrillard’s (1994: 6) hyperreality, which goes beyond the “secondary objectivity” of mere representation to the construction of a simulacrum, “which has no relation to any [existing] reality whatsoever.” Likewise, it foreshadows what has come to be called the “deep mediatization” (Hepp 2020) of the present day, a time of embedded, networked, algorithmic, global digital simulations that parallel

¹³ There were no people in this utopian world, and no churches, until complaints about their absence caused Bel Geddes to add 200 houses of worship for the 1940 show.

¹⁴ Marchand (1992: 28) says this exhibit appealed to the GM president and the head of the GM Research Laboratories, which had operated the traveling Parade of Progress in 1936. “Its stage show and animated exhibits presented a dramatic picture of the cavalcade of American progress, telling how scientific research and engineering help improve lives. A jet engine, radar, diesel-electric power, television, an electric ping-pong game with stereo sound and a microwave oven were shown to amazed audiences” (GM Heritage Center https://www.gmheritagecenter.com/gm-heritage-archive/Featured_Innovations/1936_Parade_of_Progress.html). The Parade continued in 1941 with 12 Futurliners, bus-like vehicles that functioned as mobile stages.

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and intertwine with the everyday lived world. Futurama offered not quite a forecast, but imaginative conjecture based on a fantasy experience, more real than the constrained reality of 1939 - with no way of testing its predictive accuracy until 20 years into the future. For Fair goers, it was a welcome, media-induced dream, a “Dawn of a New Day,” as the Fair’s official song put it.

In this way, Futurama contributed to a sociotechnical imaginary, a vision of improved personal, automotive transportation over urban and national highways of unprecedented reach that would, in GM’s words, produce “new horizons of a country’s welfare and happiness.” Yet, Fair goers could be swept away while maintaining a degree of skepticism. In Doctorow’s *World’s Fair* (1985: 285), Dave, the father, tells young Edgar, “it is a wonderful vision, all those highways and all those radio-driven cars. Of course, highways are built with public money. . . . When the time comes, General Motors isn’t going to build the highways, the federal government is. With money from us taxpayers.’ He smiled. ‘So General Motors is telling us what they expect from us: we must build them the highways so they can sell us the cars.’” Dave reveals the contradictory and paradoxical nature of World’s Fairs as a form of national, commercial and technological celebration: how they can be at once “the acme of all crazy vulgarity. . . . and the pinnacle of inspiration.”

Futurama’s power draws less from the persuasiveness of a particular future than in its brilliance as a materialization of its time. Dickstein (2009: 360-363) says “the fantasy culture of the thirties” is “all about movement . . . that suggests genuine freedom . . . [and] appealed to people whose lives felt pinched, anxious, graceless and static.” Mobility, he asserts, was “the real dream of expressive culture of the 1930s.” He finds this not only in Futurama but in the popular song, photography, Hollywood choreography, the fast-paced dialogue of sound films, streamlining, art deco modernism – which he sees scaled up in the cloverleaves of post-war interstate highways. Thirties mobility, Dickstein believes, was all about a “thrust toward the future.”

Futurama, of course, did not admit a looming world war into its evocation of 1960 automobility, nor could it comprehend the transformative prosperity of the post-war years. It cannot really be judged for the accuracy of its science-fiction construction of future travel by car. But the highways did come. The decisive action was brutally political, the 1956 Interstate Highway Act, which provided massive federal funding for the construction of a high speed, national and urban highway system. This Act, James Flink (1988: 359, 373) says, accounted for a doubling of motor vehicle registrations between 1950 and 1970, and resulted in eight out of ten trips being made by private car in 1977. Congress passed the Act and President Dwight Eisenhower signed it not because of Bel Geddes’s lyrical theatricality, but because of intensive and sustained lobbying by the auto industry and its allies, beginning in the 1920s, and by heavy-handed local proponents for urban expressways like New York City’s Robert Moses, “the world’s most vocal, effective and prestigious apologist for the automobile” (Caro 1974: 927).¹⁵

At the Fair, GM’s Futurama offered an experiential foretaste and the media fostered an automotive aura. Only a few years later, with the imminent end of war, this automotive socio-technical imaginary gained momentum with the circulation of remarkable visions of American travel. One 1940 bestseller’s view of automobile travel twenty years later included the prediction that cars and highways – together “magic motorways” - “will have in them devices which will correct the faults of human beings as drivers. . . . Everything will be designed by engineering, not

¹⁵ On the aggressive political, economic and engineering activities behind the replacement of electric urban tramways with buses and expressways and the construction of interstate highways, regional malls and suburban sprawl, see Jackson (1985) and Hayden (2003).

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by legislation, not in piecemeal fashion, but as a complete job. The two, the car and the road, are both essential to the realization of automatic safety” (Bel Geddes 1940: 56). Among other transportation “miracles ahead” after World War II would be automobiles with radar that would mean “you won’t have to worry about a pea-soup fog or a blinding storm. The radio waves . . . will pierce the gloom and warn you if there is danger ahead. . . You tune in the wave length of the city you wish to visit, and ride in on the beam,” according to one futuristic book (Carlisle and Latham 1944: 57) that may have been commissioned by the US Army (Innes 2005: 247). Collectively, these speculations and yearnings created conditions, as Jean Baudrillard (1994: 1) puts it, where “the map precedes the territory . . . [and] engenders the territory.”

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