

The Pan Am Terminal at Idlewild/Kennedy Airport and the Transition from Jet Age to Space Age

Thomas Leslie

“L’avion accuse ...”

—*Le Corbusier, Aircraft, 1935*

The aircraft’s “indictment” of architecture continues to the present day, its warping of perceptual space and time having altered our conceptions of global, urban, and architectural environments. Architects, while inspired by the scale and technological intensity of the aircraft, rarely have risen to its challenge, and it is uncommon to find an air terminal that enhances, rather than diminishes, the experience of travel.¹ Yet terminal buildings continue to be seen by airlines as opportunities for positioning and branding, since they are the only permanent fixtures on the airport skyline—along with hangars at the edge of an airport—to which their logos are affixed. There is a long history of “flagship” terminal buildings that attempt to crystallize the imagery and experience of a particular airline, and to celebrate the technology and speed of its aircraft. Terminal buildings thus are convenient sources of cultural archeology because the mode of their obsolescence gives us glimpses of the relationships between corporate and popular culture, technology and style, and our vehicles and the cities they inhabit or transgress.

Nowhere is this palimpsest of aviation and architecture more suggestive than at New York’s Kennedy Airport, where an “encyclopedic” collection of terminal structures was built between 1955 and 1975. While often successful in achieving a measure of popular acclaim, all of the original terminals have either undergone major reconstruction as the requirements of air travel have changed, or been demolished to make way for a more contemporary intervention. The earliest of these radical transformations occurred at the Pan American terminal, built from 1957–1960, and modified only eight years later from 1968–1973. The original terminal, an elliptical concrete parasol with a crystalline set of passenger spaces beneath, had been an icon of jet-age travel, and was the centerpiece of a larger campaign by the airline to present itself as the most sophisticated and technologically progressive travel company in the world. Yet the changing exigencies of airline operations in the “jumbo jet” era forced Pan Am to replace the terminal with a labyrinthine complex of

¹ See, for example, Norman Foster’s paeon to the 747 in Ruth Rosenthal and Maggie Toy, *Building Sights* (London: Academy Editions, 1995).

Figure 1

The Boeing 314 Flying Boat, a “cruiseship of the air” that offered luxurious flights to Asia and Europe.
© The Boeing Corporation

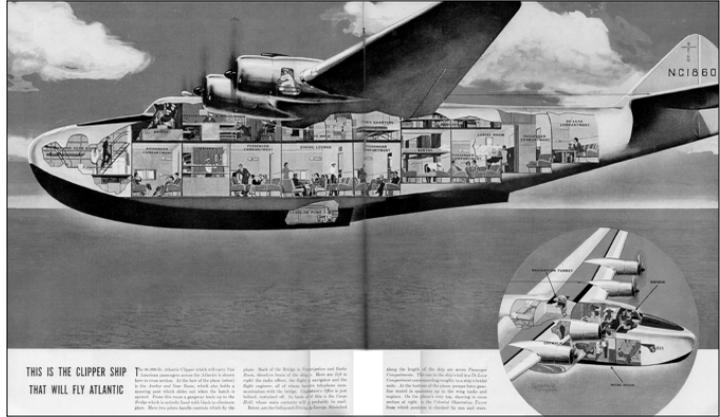


Figure 2 (above)
Pan American's base at Dinner Key Miami, Florida. Historical Museum of South Florida.



Figure 3 (right)

The Boeing Stratocruiser, a passenger aircraft adapted from the B-29 bomber. Its ungainly profile concealed a reasonably elegant interior that bridged the Clipper and Jet Ages.
© Pan American Airways.

quickly constructed gates, parking, and service areas. The ingestion of the original “jetport” by the new “worldport” was a summation of the changing relationship between humans and their machines in the 1960s, creating a dislocating experience of numbing complexity in what had been a precinct dedicated to the clear exposition of our bodily place in the technosphere. Seen in the context of Pan Am’s corporate imagery campaign, the terminal at Kennedy is a precise indicator of the industry’s change in focus from the provision of experience to the commodification of travel.

Background—Pan Am and Idlewild

New York’s Idlewild Airport and Pan American World Airways both rose to prominence in air travel and popular culture in the 1950s, at the height of postwar expansion. Led by founder Juan Trippe, Pan American combined advanced aviation technology with a canny sense of public relations and marketing. Trippe formed a working alliance with aircraft designer Igor Sikorsky, who developed seaplanes to meet Pan American’s need for landing and takeoff operations from island bases throughout the Caribbean and the Pacific. The company’s “Clipper Cruises” offered their passengers

Figure 4

Interior lounge of the Stratocruiser. While continuing the program of the 314's bars and dining rooms, the Stratocruiser's lower deck anticipated the club style of the jet age.

© The Boeing Corporation.



ship-like travel experiences including “white-glove” cabin service on board, spartan but comfortable “hotels” at overnight island stops, and elegant art deco terminals at its San Francisco and Miami bases. At the height of its Pacific service in the 1930s, the airline’s Boeing 314 “China Clippers” offered cabin interiors designed by Norman Bel Geddes, featuring cruise-like staterooms and sleeping berths for seventy-four passengers, a second deck for crew accommodations, and a deluxe compartment in the rear of the aircraft “corresponding roughly to a ship’s bridal suite.”²

Pan American’s advertising campaigns and corporate design efforts of the era set the stage for its later, better known imagery. The Boeing 314 Clipper was the signature of the airline, its streamlined bulk appearing in not only Pan American’s advertising, but also in that of its corporate partners—in particular purveyors of liquor, tobacco, and luxury goods. The company sold the 314 as a comfortable means of travel and a technological marvel, using pictures of its wood-lined interior cabins and its massive engines together to equate speed and pleasure. Pan American’s advertising also suggested that the exotic destinations it reached—including South America, China, and Europe by the mid-1930s—were easily within the grasp of a new class of traveler. Asian and South American trips were sold on weekly and monthly bases, coinciding with convenient quantities of vacation time, and the flights themselves were touted as worthy successors to the less affordable luxury cruises of the day. Beginning in 1929, the company branded its aircraft and its advertisements with a winged globe, turned to feature the South Atlantic and feathered back into the slipstream of the aircraft, a symbol not unlike other airlines, but far more prevalent in skies worldwide.

By 1950, a new generation of Pan American travelers were boarding larger DC-4s, Stratocruisers, and Constellations at newly constructed or refurbished airports. While most of the Clippers’ colonial-style luxury had been eliminated, the new aircraft were popular for their smooth rides and their turboprop-powered speed.

2 Barnaby Conrad III, *Pan Am: An Aviation Legend* (Emeryville, CA: Woodford Press, 1999), 134.

The double-decked Stratocruiser, with interiors by Walter Dorwin Teague, featured one-hundred seats on its top level, with a bar and lounge below accessible via a spiral staircase. While the single-level Constellation lacked the drama of the onboard staircase, it offered an elegant profile accentuated by a triple tail and a gently angled fuselage, emphasizing its air-streamed curves and suggesting its power. If the Stratocruiser suggested a continuation of the “flying cruise ship,” the eighty-one-seat Constellation was something new, a passenger aircraft in which the experience of the flight itself seemed to be exciting enough, without the distractions of a lounge. While airports developed to accommodate the new travelers and aircraft, airport architecture remained relatively static, with lingering suggestions of rail stations still dominating most terminals. Aircraft remained parked on a tarmac while they were loaded, and the walk across a windswept tarmac to a moveable metal staircase remained the quintessential boarding experience, offering an intimacy with the aircraft that was thrilling, if awkward.

Pan Am’s imagery continued the themes of its Clipper era, albeit targeted at a slightly new class of traveler. Advertising now emphasized the speed of the aircraft, pointing out that one could take a week’s vacation and spend nine days in Europe, thanks to the overnight flight heading east and the time change heading west. This synthesis of aeronautical technology and domestic scheduling was paralleled by a continued emphasis on the exotic locations being made available to travelers at all levels of the economic spectrum. From those able to afford berths in the “Presidential Class” aboard Stratocruisers to those taking advantage of the somewhat less commodious “Rainbow Class” aboard DC-4s, travelers around 1950 continued to find themselves enmeshed in Pan Am’s all-encompassing presentation of world travel. The company not only sold seats on its aircraft, but also all-inclusive one- and two-week travel packages to destinations throughout Europe, the Pacific Rim, and the Americas.

While Pan Am was moving into the Constellation era, New York City was developing plans for a “skyways depot” in Queens, on the former Idlewild Golf Course.³ Although plans in 1943 called for a monumental promenade and terminal, runway layouts and passenger handling gradually evolved to reflect the changing nature of commercial flight.⁴ By the late 1940s, these included parallel runways for simultaneous landing and takeoff, however designs for the central terminal continued to show a single structure with only fifteen aircraft gates.⁵ When the Constellation was introduced, development of Idlewild focused on larger, more efficient schemes. After control of the project passed to the New York Port Authority, plans for a central terminal were discarded in favor of a dispersed collection of buildings to be designed and funded by each airline. This 655-acre “Terminal City” was planned around a looping access

3 “World’s Greatest Airport to Serve Skyways of Tomorrow,” *Popular Science* (August 1943): 75.

4 “Final [sic] Plan for Idlewild Airport,” *The New York Times* (August 6, 1944).

5 “Lines Accept Plan for Idlewild Filed,” *The New York Times* (August 6, 1944).

road and a series of stylized landscaped *allees*, and was occupied first by the multi-line Arrivals Building and control tower built from 1955 to 1957.⁶

In 1957, Pan American was among the first airlines to reveal plans for its terminal on a site west of the Arrivals Building. Designed by Tippetts-Abbett-McCarthy-Stratton, the proposal wedged nine Stratocruiser-sized gates into the tight, sixteen-acre site by adopting a narrow footprint similar to other “finger” terminals. Outbound facilities were lifted above the ground, providing direct connections to aircraft by moveable gangplanks, and eliminating the blustery dash across the tarmac. Floating above the straightforward plan was a cantilevered concrete parasol that would both enclose the terminal interior and hover above the front halves of docking aircraft, allowing passengers to comfortably board in rain or snow. To unify the geometries of the finger terminal, the turning radii of the aircraft, and the automotive loading at the front door of the complex, the roof took on an elliptical geometry, providing a single, striking image surmounting the catwalks and glass walls below. The roof was supported on thirty-two columns located outside of the terminal enclosure, supporting cables that held the tapered edge of the concrete parasol, and balanced by six small tension columns at the center of the terminal. The roof’s upward splay and its narrow profile disguised the supporting cables, giving the illusion of an impossibly thin concrete shell shooting out into the space of the tarmac. The overhanging roof and moveable gangplanks thus turned boarding into an architectural event—a transition from land to air in which the detail of moving into the aircraft was carefully considered and which, given the scope of the parasol, became the signature of the complex.

Much as Idlewild’s original plan had been altered by the Constellation and the Stratocruiser, the Pan American terminal found itself overtaken by aeronautical developments. While the schematic design presentation showed the model surrounded by propeller aircraft, Pan Am already had ordered the first of its Boeing 707s in 1955.⁷ The new jets had profound implications for terminal facilities. While the largest version of the Constellation held one-hundred passengers, the new jets held one-hundred and thirty. While the DC-7 could maneuver parallel to the terminal, the 707’s longer body dictated a nose-in arrangement, and the expense of maintaining and maneuvering the new aircraft demanded that servicing, loading, and handling all be performed on station.⁸ On a more prosaic level, the jet’s engine noise and blast required terminal designs to provide acoustic separation, insulating passengers from the engine noise and the hum of activity as the waiting jets were serviced prior to boarding.

Pan Am’s terminal for Idlewild was redesigned rapidly to meet the demands of the 707, changing significantly before its completion in the spring of 1960. Its layout was altered to maximize

6 “Idlewild Test Case.” *Newsweek* (December 27, 1948): 54.

7 *The Pan Am Story* (Pan American Airlines, ca. 1969), n.p.

8 John Morris Dixon, “Air Terminals for Jet Travel: New Problems and Trends,” *Progressive Architecture* (November 1961): 128.

Figure 5

The Boeing 707 in Pan am livery. While not the first commercial jet transport, the 707 became the aircraft of the choice for the jet-set generation.
Pan American Airways.



Figure 6

Interior view of Pan Am's "Jet Clipper" service to Europe. The 707 cut travel time dramatically, obviating the need for separate lounges or sleeping berths. Instead, the flight itself condensed the cuisines, cultures, and sensibilities of the destination at the passenger's seat, heightening the experience of flight itself.
Pan American Airways.

the accommodation of the larger jets, with eight spaces for parking under the canopy and two fueling stations further out on the apron. Utilities were reconfigured, and the boarding ramps were redesigned to accommodate nose-in parking for the jets. Facilities for customs were included to supplement the already overcrowded spaces in the neighboring Arrivals Building, and the interior of the terminal was redesigned to include space for restaurants, clubs, and a bar, suspended over the loading apron, catering to frequent Pan Am travelers.

Popular reaction to the new terminal building was universally enthusiastic. Commentators referred to its "umbrella" or "parasol" roof as an architectural event in itself, with *Life* magazine comparing the terminal and its neighbors to a World's Fair site.⁹ The functional aspects of the terminal; particularly its short walking distances, doorless air-curtain entrance from the approach road, and mechanized luggage sorting system, were praised as engineering achievements that maximized the efficiencies of scale offered by the new jets. *Time* magazine praised the terminal's ability to "speed and pamper" the traveler, while *The New York Times* suggested that the drama of the aircraft and architecture obviated the need for public art, since the building itself was an exhibition worthwhile on its own.¹⁰ From within, the terminal offered an "unchecked panorama" of the aeronautical ballet through 27-foot high glass panes, while nighttime lighting of the exterior canopy converted the building into a "phosphorescent mushroom" that dominated the low-lying skyline of Idlewild.¹¹ Even the waiting experience was enhanced, because the interior lighting was orchestrated to dim over inactive gates and brighten over active boarding areas.¹² That such technical solutions could be so elegantly celebrated suggested the power held by the new jets over the traveling public's imagination. New Yorkers not only boarded the new aircraft in record numbers, but also simply showed up at Idlewild to watch the spectacle of the 707s from the catwalks and viewing areas of the terminal.

9 "Phenomenon of the Jet Age: The Dazzle of Idlewild," *Life* (September 22, 1961): 71.
 10 Sandra Knox, "Idlewild Skyline Gets an Addition," *The New York Times* (June 3, 1960) and "Aviation: Umbrella for Airplanes," *Time* (June 13, 1960): 103.
 11 Sandra Knox, "Idlewild Skyline Gets an Addition."
 12 "Aviation: Umbrella for Airplanes."



Figure 7 (above)

Terminal City at Idlewild/Kennedy Airport. The Pan Am terminal (number 9) occupied a key corner of the central precinct, a network of looping access roads surrounding a sea of parking and a pair of angular landscaped axes. *Dexter Press*



Figure 8 (right)

The Pan American Terminal at Kennedy Airport, with the tails of the boarding 707s visible at left. Its "impossible airy" roof sheltered passengers while dramatically announcing the airline's status as the premiere arbiter of jet-age style. Pan American Airways.

By far the most telling endorsement of the terminal was that of *Vogue* magazine which, in October 1960, staged a fashion shoot in and around the new structure. Seeing in the building's "pale, floaty umbrella" a new icon of jet-age fashion, the shoot placed travelers at strategic points throughout the terminal, primarily on the exterior catwalks that linked the building to its exterior boarding ramps, elements that, for *Vogue*, emphasized the cruise-like heritage of the airline.¹³ The accompanying article pointed out that the new jet service brought the fashion houses of Europe to within six hours of New York, and suggested that the "jet-oriented" terminal had adopted the practical though stylish fashion sense of the well-appointed traveler. While praising the functionality of the roof and loading system, *Vogue's* editors were more vocal regarding the aesthetic appeal of the "improbably airy" structure, from the "wraparound" views of the new jets ("lovely, Canaveral-like vapor clouds") to the details of the club rooms ("all Plexiglas, Saarinen chairs, the splash of a tiny fountain, and pleasant food served with some dash").¹⁴



Figure 9

The Pan Am logo, as designed by Edward Larrabee Barnes in 1957. The globe replaced a pictorial view of the western hemisphere, hinting at the airline's new global reach. © Pan American Airways

The Kennedy Terminal was part of a major branding campaign on the part of Pan Am to at once humanize and stylize the technological experience of jet travel. While airlines had previously experimented with advertising and identity to distinguish themselves from one another, the extraordinary efforts of Pan Am in the 1950s indicate the anxiety of the corporation to apply an all-encompassing gloss to what, at least for some, was a disorienting new mode of travel. When Pan Am purchased its new jets in 1955, the airline commissioned designer Edward Larrabee Barnes to transform their old logo—a winged globe with the Caribbean featured prominently—into a new, instantly recognizable blue circle inscribed with abstracted lines of latitude. The obvious implication was that Pan Am was no longer restricted to one easily recognizable hemisphere, and that the new jets could operate throughout the entire globe—not merely the half shown pictorially in the old logo. A more nuanced reading of the blue circle suggests that, in fact, the

13 "New York's Idlewild—The New Look," *Vogue* (October 1, 1960): 194.

14 Ibid.

Figure 10

Plan of the Pan Am terminal in its original configuration.

McGraw-Hill.

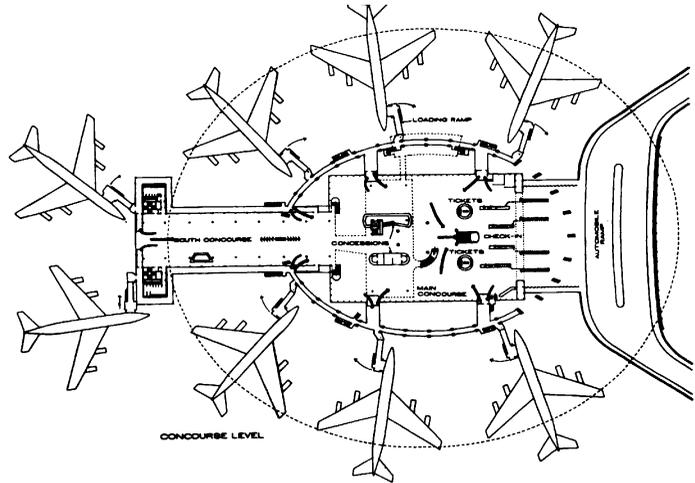


Figure 11

Section of the Pan Am terminal, showing the overhanging roof structure and boarding catwalks.

McGraw-Hill.

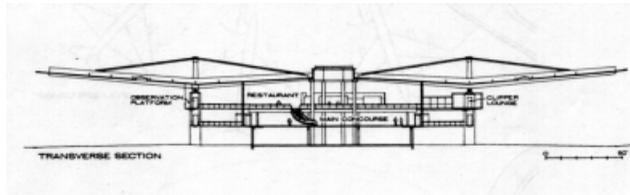
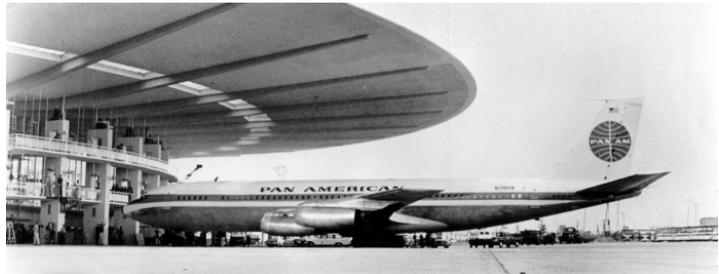


Figure 12

A Pan Am 707 boarding underneath the JFK terminal's canopy, ca 1961. Note the spectators on the catwalk, left.

Pan American Airways.



revised logo symbolized the dissipation of the local into the abstract ether of global travel, an elimination of recognizable land forms and places in favor of a mathematical representation of navigation and capital. Whereas the airline's advertising in the early 1950s featured a globe tilted to reveal its circumferential routes through Europe and the Pacific, it was perhaps no coincidence that the projection chosen for the logo emphasized the poles. With the jets' improved fuel consumption, nonstop flights to Europe could traverse much further northward, along strict great circle routes, no longer dependent on the hopscotch fuel stops in Gander and Shannon that had punctuated trans-Atlantic flights on the Constellation.

The instantly recognizable logo served as a graphic ambassador, as a generation of Americans flew to Europe for the first time aboard the new Jet Clippers. The new "jet set" was young, upper middle class, and fashion conscious, and Pan Am's carefully orchestrated identity campaign spoke directly to the developing worldview

Figure 13

Vogue magazine's fashion shoot under the Pan Am terminal's canopy was perhaps the ultimate confluence of the jet age's architecture and fashion. Note the blue Pan Am bags, a ubiquitous symbol of the newly mobile traveling class.

© 1960 *Vogue* The Conde Nast Publications, Inc.



of this demographic. Advertisements in *National Geographic*, *Time*, and *Newsweek*, in particular, promised that the new technologies would provide access to “a truly new world—a world you can grasp—a world you can call your own.”¹⁵ The 707 figured prominently in Pan Am’s ad campaigns throughout the 1960s, usually featured in a double-page photograph with copy below promoting the technical achievements of the new aircraft, and announcing the low fares made possible by the Jet Clippers. Another, parallel campaign focused on destinations, framing European, Asian, and Pacific locales within the context of the Pan Am brand. These advertisements featured lush photography of exotic destinations, but emphasized their consumability by jet: “These are dreams, but *going* makes them real” was one of several tag lines that put potential passengers in close proximity to the previously unattainable locales.¹⁶ Stylish graphics featuring cartoons of European figures hinted at this newfound accessibility, while suggesting that such a trip need not intimidate novice travelers. Indeed, Pan Am included a range of travel tips in their promotional literature designed to ease the newly mobile American middle class into world travel, offering “Dos and Don’ts” but concluding, optimistically, that European “forms of etiquette and good manners are the same as at home.”¹⁷

Pan Am established itself as the premier travel brand during the 1960s not only with its jets, but also with a related campaign to ensconce travelers within its carefully designed version of the world before and after the flight. The company bought a string of travel agencies and support companies in the 1950s, offering travelers an

15 “Seeing Europe by Pan Am Jet” (Pan American World Airways Brochure, July 1961).

16 *Ibid.*

17 *Ibid.*

integrated booking and planning service. Likewise, the airline's major tenancy in New York's Grand Central City, above the rail terminal, meant that its name and new logo became synonymous with the towering office building that punctuated Park Avenue. Beginning in 1965, passengers could purchase tickets at a Barnes-designed counter in the Pan Am Building, board a rooftop helicopter bearing the airline's logo, and arrive gate side at Kennedy Airport in less than ten minutes. On a wider scale, since 1945, Trippe and Pan Am had assembled a portfolio of hotels under the Intercontinental Hotels brand name. Intercontinental offered American-style rooms in major capitals as well as "odd corners of the world," often at a financial loss. However, the ability to guarantee a recognizable set of amenities at the other end of their journey added further reassurance to the new traveling classes that their "trip of a lifetime" would be not only thrilling, but also comfortable. While Pan Am claimed that their Intercontinental Hotels were not "cookie cutters," but were expressly designed to "please the fussiest traveler," and while adopting regional themes and materials, the hotels showed a remarkably consistent stylistic approach. Paralleling contemporary work for U.S. embassies by Edward Durrell Stone, Intercontinental architecture featured resolutely modernist interpretations of local forms, adding a distinctly American touch to locations from Dacca to Abidjan.¹⁸

The carefully orchestrated, "aestheticized," and commodious *grand tour* was both enabled and summarized by the experience of flight on a Jet Clipper itself. With famous attention to detail, the interiors of the Pan Am 707s again were designed by Walter Dorwin Teague to replace the separated cabins of the Stratocruiser and Constellation with a single, large passenger compartment. The various rooms of the earlier planes were discarded, and entertainment, meals, and socializing during the flight instead were focused on the passenger seat itself. The airline's literature played down the adventurous nature of earlier flight, opting instead to emphasize the jet cabin's comfort and a sense of heightened normality. "The serene quiet of a Jet Clipper Cabin is hard to imagine," one campaign said, "a pleasure you have to experience to believe.... roomy, quiet, tastefully decorated for warm sociability."¹⁹ Images of in-seat meal service and suit-wearing passengers enjoying drinks and cigarettes gave the appearance of a cocktail party in a comfortable Park Avenue apartment, albeit one traveling at six hundred miles per hour. The shift in attention from the bars, sleeping cabins, and dining compartments of Pan Am's earlier flights represented a major shift in the perception of air travel. The vastly reduced travel time of the jets turned the experience from one of a short cruise to one of a long evening out, as the distractions of getting up from one's seat to change activities were no longer required during a flight of only six and one-half hours.

Pan Am led a tremendously successful effort at normalizing and mainstreaming transoceanic travel during the 1960s, during

18 *Clipper Magazine 747 Souvenir Edition: System of the '70s* (n.p., Pan American World Airways, ca. 1969), n.p.

19 "Seeing Europe by Pan Am Jet."

which air traffic to Europe increased fourfold. Public acceptance and popular acclaim for the Pan Am experience could not, however, disguise the fact that contained within the networks and machinery of the jet age were serious sociological, economic, and urban challenges, none of which were resolved during America's infatuation with the jet aircraft. As early as 1961, Reyner Banham noted the sprawl of the international airport into the surrounding landscape and its attendant suggestion that architecture and urban planning perhaps were not up to the challenge of the 707. In particular, Idlewild's "pointless *Marienbad Allee* in the middle of a spaghetti of roadways and a fairground of competing terminal buildings" for Banham was an indication that, for all the "airy prettiness" of the Pan Am terminal, its architectural solution failed to address the scale of the airside operation.²⁰ Terminal City itself was only a fraction of the overall complex, with cargo terminals, hangars, and electronic installations covering twelve hundred total acres, about the size of Manhattan south of 35th Street.²¹ That this piece of urban real estate offered no legible or human order troubled Banham, who bemoaned the "slummy sprawl" of Kennedy, suggesting instead the elimination of monumental airport architecture in favor of an engineered network of circulatory paths. While the terminal and its brethren had constituted a radical advance when planned in the early 1950s, the jets had usurped "the first airport built for Constellations." While boarding a Pan Am 707 might suggest an "architecturalized" aeronautical experience, it was clear to Banham that the larger urban and functional issues posed by the jets were beyond the scope of architects or planners.²²

The 707's imagery was only the smallest fragment of its overall design challenge. Most glaring were problems of infrastructure, in both getting to the airport from Manhattan through thickening traffic, and in the handling of the new aircraft, whose popularity outstripped the newly renamed Kennedy Airport's capacity. Throughout the early 1960s, eighty percent of Americans traveling by air to Europe flew through Kennedy, an increasingly unpopular situation because of its growing congestion.²³ By 1968, delays of ninety minutes were common even in good weather as international flights and the domestic lines that fed them competed for air and ground space. Terminal City, which had been planned as a generous, sweeping landscape, became a monstrous freeway interchange, with traffic backing up into Queens. Pan Am's floating umbrella transformed from a glamorous backdrop for jet-age adventurers into a crowded holding tank for increasingly delayed and frustrated passengers, as each flight disgorged 707 populations into spaces planned for Constellations.²⁴

New York's Port Authority came up with no definitive plans for relieving the congestion of the 1960s, trapped as it was in political infighting with other city agencies and reluctant to approve solutions outside its jurisdiction.²⁵ The airlines, however, in conjunction with

20 Reyner Banham, "The Obsolescent Airport," *Architectural Review* (October, 1962): 252.

21 George Scullin, *International Airport: The Story of Kennedy Airport and U.S. Commercial Aviation* (Boston: Little & Brown, 1968), 30.

22 Reyner Banham, "The Obsolescent Airport."

23 William Burrows, "Time Runs Out at JFK," *New York Magazine* 1:17 (July 29, 1968): 14–21.

24 *Ibid.*

25 *Ibid.*

Figure 14

The Boeing 747, another passenger aircraft adapted from a military precedent. The “spacious age” offered the return of the double-decked airliner, again calling to mind a flying cruise ship. Here, though, the measured elegance of the Stratocruiser was replaced by a more soporific interior. *Popular Mechanics*, The Hearst Corporation.



Figure 15

The 747 interior promised “all the room in the world,” yet its interior provoked a sense of dislocation and spatial confusion to match that of the terminal. Pan American Airways.

- 26 John F. Pearson, “New Era in Air Travel,” *Popular Mechanics* (December 1969): 108–111.
- 27 The development of the 747 seat is described by Niels Differient in “Design with Backbone,” *Industrial Design* (October, 1970): 44–47.
- 28 Calvin Trillin wrote convincingly of the “hump’s” popularity as a lounge, noting that the new class of “Traveling People” seemed obsessed with “seeing something from twenty thousand and fifteen feet that [they] couldn’t see from twenty thousand.” Calvin Trillin, “U.S. Journal: NY/LA/NY: A Traveling Person on a Beautiful Place,” *The New Yorker* (April 4, 1970): 66–77.
- 29 Early advertising used the catch phrase “The plane that’s a ship, the ship that’s a plane,” tying the 747 experience directly to that of the then more familiar cruise ships.
- 30 Various print advertisements from ca. 1969 appearing in *Esquire*, *Newsweek*, and *Playboy*.

Boeing, arrived at a solution to airside congestion by reconceiving the jet itself to maximize efficiencies of scale. In 1965, Boeing began revamping a rejected proposal for an Air Force freighter into the 490-seat 747. With double-width boarding doors, a two-aisle layout, and an internal power source that eliminated the need to “plug in” while at the gate, the new plane provided exponentially greater airside efficiency to the airlines.²⁶ Within the new “Jumbos,” passengers were offered unprecedented comfort and amenities, including meals prepared in larger, better-equipped galleys, wide-screen movie projection, and ergonomically designed seats.²⁷ Most notably, the trademark “hump” of the 747 contained a separate lounge reached by a spiral staircase, bringing back the popular amenity of the Stratocruiser and unwittingly creating the most exclusive club space of the early 1970s.²⁸ Proclaiming the dawn of the “spacious age,” Pan Am was the first airline to place orders for the 747, touting its comfort, speed, and efficiency to customers by once again comparing the new flying experience to cruise ships, with “state-rooms” and “salons” in first class, and “living rooms” in economy.²⁹ Rather than emphasizing the speed or sensations of jet travel, Pan Am’s advertising campaign was geared toward a new class of less-experienced travelers, and it substituted the sophisticated elegance of flying the 707 with the calm ordinariness of the Jumbo. The “hotel on wings” offered “big fun on the big plane where the big thing is comfort” with, in the airline’s new trademarked slogan, “All the Room in the World.”³⁰

If the jumbo jets offered economies of scale on the tarmac and new levels of comfort within their cabins, they had complicated effects on the ground. While boarding itself was studied and planned for maximal efficiency, the already congested network of highways, parking lots, and pedestrian circulation at Kennedy proved instantly and disastrously insufficient for the new scale.³¹ Pan Am faced particularly acute problems. Because of the building’s narrow site, the original footprint could accept neither the wingspan nor the turning radius of the 747. Similarly, the terminal’s waiting areas were not adequate for the new scale of passenger embarkation. The only possible solution was to build out into the apron, providing

Figure 16

The first class lounge of the 747, in a contemporary rendering. The “flying room” removed travelers from the sensations and visible evidence of flight, focusing inward on the distractions such as Cinerama movies, international cuisine, and the endless supply of cocktails, particularly on the “gin flights.” Pan Am Airways.



gates configured especially for the “Jumbos.” Designed by TAMS consultants, the successor to Tippetts-Abbot-McCarthy-Stratton, the new “Worldport” wrapped a narrow strip of check-in facilities, waiting areas, and boarding gates around a central area reserved for parking—all thrust out into the space of the airside apron. This strip was linked to the original terminal at both ends, forming an irregular trapezoid with three 747 gates lined up on each long leg, and gates for smaller aircraft along the far side. The original terminal was retained but altered, with enclosed jetways providing access to smaller jets and a new administration block disguising the transition to the addition. While the front entrance of the terminal was maintained, an additional roadway was built through the existing basement, forming arrivals and departures levels on the inside of the new structure, a tight loop that included access to rooftop parking. Within the new terminal, shops, lounges, and amenities crowded the Worldport corridors, blocking views of the apron. While the original building seemed to project its space into that of the aircraft around it, the new structure was entirely introverted and largely sealed off from the exterior. Built quickly while Boeing was finalizing the production model of the 747, the new terminal building was touted by Pan Am as a “spaceport,” where passengers could “drive directly to their flight,” eliminating the monumental terminal in favor of a seemingly efficient transport network, computerized luggage handling, and 24-hour commerce.³²

Upon its full completion in 1973, the reality of the Worldport was considerably less elegant. While its spatial efficiency was unparalleled, it came at the expense of legibility and orientation. Height limitations compressed the new structure, creating low corridors of space, and the wraparound nature of the solution frustrated any possibility of intuitive wayfinding—the turns and short runs of circulation space prevented understanding of the scheme’s essentially linear nature. The narrow configuration of the “strip” also created

31 Pan Am refined its boarding procedures in preview exercises to load a full complement of 361 passengers on board a new 747 in less than twelve minutes, likely still a record. “Jumbo Jet-Airport Problems,” *U.S. News and World Report* (Jan 26, 1970): 11.

32 *Clipper Magazine 747 Souvenir Edition: System of the '70s* (n.p., Pan American World Airways, ca. 1969), n.p.

Figure 17

Pan Am's "Worldport" was a fundamentally linear extension to the original terminal, wrapped around a central parking space. It was an efficient, if baffling, harbor for the airline's new 747s.

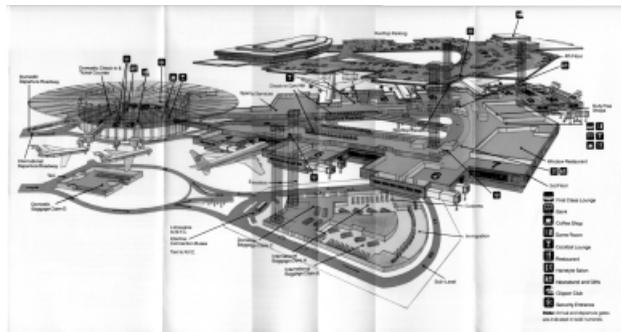
Pan American Airways



Figure 18

"Worldport Made Easy." The spatial and functional logic of the terminal's extension defied even diagrammatic explanation.

Pan American Airways.



confusing views out through the parking lot into other waiting and boarding areas. Most disarmingly, the layering of space combined with its geometry to create strange, counterintuitive pedestrian movements. One might, for example, disembark from an arriving plane, descend into the basement customs area by escalator, walk halfway around the building to collect luggage, and then walk back to the sub-level arrivals roadway in almost the exact same position as the aircraft one had just left. Where the original terminal had emphasized orientation relative to the planes and runways, relying on intuitive cues to guide passengers to their flights, the new building was forced to employ an extensive graphics program to route passengers through a functionally efficient, though experientially labyrinthine, series of spaces. Even this effort fell short, and passengers eventually were offered an exploded perspective of the terminal entitled "Worldport Made Easy," whose coded key purported to "assist... in locating the location of Worldport's many facilities," a claim that was countered by the complexity of the drawing itself.³³ The new terminal thus replaced the tangible logic of the original with a geometrically efficient though experientially insoluble layout, emphasizing program over diagram, and a puzzle-like utility over any sense of spatial accommodation.

33 *Pan Am's Worldport Made Easy* (brochure, New York: Pan Am, 1982), n.p.



Figure 19
Pan Am's advertising in the Jumbo era replaced the excitement of transatlantic flight with the promise of a soporific, sensation-free experience.
Pan American Airways.

If the 707 had promised a smooth, sophisticated, and engaging travel experience from start to finish, the 747 suggested an anesthetic experience—one which eliminated all traces of interest or engagement from what was increasingly a crowded, disorienting, and often frustrating occasion. In contrast to the monumental canopy of the original terminal, the new Worldport suggested all the occasion of a large subway station, a comparison made by *Progressive Architecture*, which found the functionality of the new terminal lacking.³⁴ The bulk of the 747s themselves heightened this lack of kinesthetic awareness, removing the majority of the planes' passengers from the windows. Their aircraft's large diameter created near-vertical cabin walls, disguising the aerodynamic shape of the planes and contributing to the illusion of a "flying room."³⁵ Because of its mass, the 747's handling was ponderous, and often barely noticeable to passengers even in turbulent air. Takeoffs and landings were absorbed by the plane's mass and slow acceleration, to the point where novice passengers seated away from windows failed to notice when they touched down—an effect exacerbated by the odd perspective in the upper floor lounge.³⁶ Pilots, too, were isolated by the location of the cockpit on the upper level, such an odd location with respect to the maneuvering nose gear that Boeing provided special training rigs to educate new pilots.³⁷ The interiors of the plane again were designed by Teague's office, although now with an emphasis on breaking up the massive space of the 747's cabin and a focus inward, toward movie screens and in-seat service prepared by large galleys. Pan Am's advertising, which had in the 707 era emphasized exotic destinations and the lively onboard atmosphere, focused on the numbing aspects of jumbo travel, switching from "big fun" to sleep, distracting entertainment, and a cuisine that featured alcohol as a necessary component of a pleasant journey. Long-haul flights came to be called, in the language of 747 flight attendants, the "gin flights": delays and the boredom of the long haul necessitated "feeding [the passengers] steak and giving 'em all the liquor they can drink" to maintain quiet and order on board.³⁸ Advertising, which previously had featured images of couples and groups enjoying meals, cocktails, and even games of chess on the 707 now featured individuals asleep in the numbing "comfort" of a 747 passenger seat.

The Worldport was only the most visible and architectural example of the soporific, disorienting effects of Jumbo travel at Kennedy. Outside the terminal's front door, opposite the new extension, Terminal City was quickly beset by new highway infrastructure and parking garages, which obscured and eventually obliterated the original landscaped precinct. Here too, intuitive understanding was trumped by operational efficiency, as the simple ring road was replaced by a complex network of flyovers, off-ramps, and U-turns that forced one to drive past one's terminal and double

34 Don Raney, "People and Planes: Can Airports Bridge the Gap?" *Progressive Architecture* (September 1969): 92–93.

35 "The 747: Into a New Air Age," *Newsweek* (October 27, 1969): 97.

36 Ibid.

37 "The eye height in the 747 is such that a pilot, in crossing the threshold at his customary eye level, would land well short of the runway.... Pilots in transition [also] consistently underestimate the speed of the aircraft over the ground," Capt. Donald E. Kinkel in "Room at the Top," *Industrial Design* (October, 1970): 48.

38 "Aircraft: Period of Adjustment," *Newsweek* (July 13, 1970): 81.

back to its designated parking area. The lack of any subway connection left terminal approach ramps crowded with buses providing connections to other terminals, airports, and transportation centers. Extensive graphic programs were necessary at curbside to “orient” the arriving or departing passenger in a milieu that, like the 747 or Worldport interiors, offered little opportunity to locate oneself in relation to the ground or to one’s destination. From the monumental ephemerality of the original Pan Am terminal, air travel in the age of the 747 slipped into a disorienting experience in which time, space, and movement were muffled by a combination of hardware, architecture, infrastructure, and cocktails. The sensory conditions of jet lag were matched by a multitude of low, fluorescently lit spaces, and jarringly complex threads of circulation on the ground and in the air—conditions foreseen by Stanley Kubrick’s parodic use of the Pan Am logo on the shuttlecraft and transfer station of *2001*. If the 707 had celebrated the stylish experiences of the high machine age, the 747 and its accoutrements broadcast the uncomfortable fact of a technology that had slipped its human connections, trading experience for wholesale systematization.

Conclusions

By 1977, Kennedy Airport and Pan Am were both in the depths of crisis. Congestion on both land and airside had worsened, delays continued, and a crime wave swept the airport, affecting cargo and passenger operations. The crashes of a Pan Am 747 with a KLM flight at Tenerife and of a New York Airways helicopter atop the Pan Am building in midtown, both in 1977, linked the airline with sensational accidents, destroying the façade of the airline’s almost paternal, reassuring public face. Pan Am eventually collapsed under the weight of its disastrous 1980 purchase of National Airlines and deregulation-era competition from lower-priced, more flexible carriers. Shortly thereafter, Pan Am sold its interest in the midtown tower to Metropolitan Life, which replaced its logo and removed the airline from the New York skyline. Sales of assets, employee strikes, and the 1988 terrorist bombing of a Pan Am 747 en route to Kennedy doomed the airline, which declared bankruptcy in 1991. Ownership of the Worldport transferred to Delta, which continues to use it and an adjacent terminal today. Current work to build an aboveground light rail system has removed the vista of the floating parasol from the rest of the airport, and conglomerations of retail pavilions, fast-food stands, and security apparatus all have contributed to a further obscuring of the original terminal’s crystalline space. While there are no current plans to demolish the structure, an almost archaeological effort of imagination is needed to summon up the jet-age elegance of its heyday.

The saga of the Pan Am terminal can be read as the physical manifestation of a technology evolving faster than our collective abilities to construct for it. Conceived in the Constellation era, the

Figure 20

The next generation jumbo. Airbus 555-seat A380, a full double decked airliner scheduled to be in service in 2006. Extending the logic of the 747, mockup concepts have shown furniture and layouts that suggest cinema or commercial interiors, further concealing the mechanisms and sensations of flight. If the economy section of the 747 was a flying "living room." The A380 suggest nothing less than a flying office park.

©Airbus Industries.



jetport, like Terminal City, lagged behind the vehicular, economic, and infrastructural developments around it. The 707s were barely accommodated by the original structure, and the subsequent reconfiguration of the Worldport was a panicked response to the rapid arrival of the 747s. This, like so much airport architecture of the era, suggests that architecture and construction, for centuries the residence of the most advanced human technology, had been finally, definitively surpassed by vehicular and aeronautical engineering at all levels—structurally, technically, and perhaps most important, in the popular imagination.

In this surpassing of architectural engineering, aviation suggested the displacement of the human body by its mechanical extensions. While the Stratocruiser and 707 both offered a lingering sense of tactility, perception, and experience, the 747, by its very nature, eliminated much of the contact between our senses and the physical nature of air travel. The artifacts of this era—cabin interiors, terminal design, and loading structures—all attest to a sense of insulation from the sensations of flight and an anesthetizing of our awareness of motion, translation, and position within the grids of airports and airspace. It is no coincidence that this transition, from the stylish, intensified experiences of the Jet Age to the plastic, muted ones of the Space Age, was additionally reflected in popular culture of the era. Films and television shows such as the British *Thunderbirds* or Kubrick's *2001* placed an increasing emphasis on hardware rather than (human) software, emphasizing the shift in values and focus brought about by a new technological avant-garde. The 747, like the machines of *Thunderbirds*, suggested a mechanical baroque, a capitulation of our bodies and experience to an overwhelming and gluttonous technology. Such a distinction, between technology as an integrated part of our experience and as a force that sublimates our experience into a larger system of unapproachable complexity, may well serve as a working definition of two distinct eras in postwar design. The "Jet Age," with its heightened sensations, monumental structures, and celebration of the visual, aural, and tactile experiences

suggested a vital connection between our machines and ourselves. This sense all but evaporated as the technology of the Space Age became an independent cultural vector, one that eclipsed human experience as a vital component of mechanical function. Somewhere between the publication of the Pan Am terminal in *Vogue* and its transmutation into the Worldport, the relationship between aeronautical technology and our human experience underwent a dramatic change, and the thrills of jet travel disappeared in the sclerotic congestion and anesthetizing “gin flights” of the 747 era.

As aviation and aeronautics have developed beyond the 747, some measure of recovery has occurred as more widely dispersed routes have led to smaller, more efficient aircraft. Terminal design likewise has brought back some measure of experience and sensory location, notably at Stansted Airport in Essex, England by Foster Associates, and Kansai Airport by the Renzo Piano Building Workshop. In each of these cases, the design teams offered the primacy of sensation as a fundamental consideration in the terminal buildings—at Stansted, the visibility of the aircraft through the open spaces of the terminal; and at Kansai, the metaphor of a giant wing for the airport’s roof. However, with the double-decked, 550-seat Airbus A380, scheduled to begin service in 2006, there is a new functional challenge to airport design, one that will again stress the relationships between the traveler, the aircraft, and the terminal, signifying the ongoing uneasy connections between ourselves and our machines. In this sense, the aircraft continues to both unseat and accuse, reminding us of our contingent attachment to the convenience of aeronautical technology, and of architecture’s apparent insufficiency in its face.