

Swarm of the Metropolis: Passenger Circulation at Grand Central Terminal and the Ideology of the Crowd Aesthetic

ANTHONY RAYNSFORD, *University of Chicago*

This article explores how Grand Central Terminal organized and "aestheticized" the metropolitan crowd. Through a combined analysis that integrates architectural form and social discourse, the article examines the dynamic relationships between changes in the mythologies of the crowd and changes in the series of Grand Central stations that occupied the same site in midtown Manhattan between 1871 and 1914. At the first station, Grand Central Depot, extreme overcrowding grew in proportion to the increase in traffic flow and in the railroads' operational efficiency. At the turn of the century, the architecture of passenger movement became the object of intense design and construction activity in which passenger spaces became both more carefully organized and more monumental. As the culmination of these changes, the 1914 terminal represented the city and its crowds in an idealized microcosm and the passengers as a collective monument to the railroad empire. Within this new monument, the concourses and ramps engineered human movement according to a paradigm of mechanized rationality.

This article demonstrates that the aesthetics of passenger circulation at Grand Central Terminal participated in a larger culture of technological domination and rationalized sociability. Each section describes a progressive step in the incorporation of the crowd by the mechanized apparatus of the railroads, and different discourses of the crowd are linked to corresponding spatial forms in Grand Central. This view of Grand Central Terminal, a beaux arts building, raises significant historiographic questions as to traditional distinctions between modernism and nineteenth-century historicism.

Introduction: Toward a Cultural History of Urban Form

Although it was praised as an enormous engineering feat in its day, Grand Central Terminal has never been a monument to industry in the manner of the Eiffel Tower or the Brooklyn Bridge, both of which present spectacles of novel physical structure. The terminal does not offer itself up as such because the machinery and the structural apparatus of the station have been deliberately hidden within limestone facings, painted surfaces, and underground tunnels. The great engineering feat at Grand Central Terminal appears in human form: the hurrying masses that continually pour across the floor of the main concourse and circle the information desk. The crowd is both dwarfed and amplified by the enormous arched windows and the 110-foot vaulted ceiling with its zodiac motif. As an urban monument, Grand Central Terminal stages an elaborate spectacle whose mythical object is the metropolitan crowd; as a piece of engineering, it orchestrates an immense flow of human circulation.

The mechanisms by which the terminal controls circulation and the aesthetics by which the masses become an element in the architectural composition offer insights into the urban culture of New York at the turn of the century. Emerging during an age of urban reform and in a city in which the railroad companies were prime targets of criticism, Grand Central Terminal's main concourse embodied an ideal urban space that transformed what was often viewed as the threatening crowd on city streets into the sublimely unified one inside the terminal. From the balconies on either side of the concourse, the throngs of passengers became abstract patterns of mobile humanity. The desire of the railroad companies to construct such a harmonious environment suggests the degree to which the railway station, as a rec-

ognizable urban place, had become a site of public scrutiny and contention. Grand Central Terminal, therefore, must be analyzed in its original social and political context.

In linking the station to a new kind of civic space, to the urban crowd and its mythologies, and to rationalized passenger circulation, my analysis differs from previous historical writings on Grand Central. These analyses have tended to fall into two categories. The first is typified by the writing of Carroll Meeks, who saw in the lithic solidity of the terminal's concourse an aesthetic regression, "a reaction against engineering. The potentialities of the train-shed had been rejected in favor of monumental head-houses."¹ The view of the glass and iron train sheds as protomodern forms, suppressed by reactionary architects, projects a certain teleological notion of modernity while ignoring the more specifically use-bound and iconographic reasons for particular architectural vocabularies as well as the station's ideological role as the railroads' gateway to the city.

The essays in the Municipal Art Society of New York's *Grand Central Terminal: City within the City* typify the second group of writings on Grand Central. Having the distinct political purpose of saving and restoring the terminal, the essays praise each detail of the building to the point of boosterism, often naively repeating the language of the station's own advertising.² In "A Glory of the Metropolis," Deborah Nevins combines art historical research with idealistic mystifications so that one loses all sense of a critical distance. Thus she concludes, "Embodied in the efficiency and the elegance that are Grand Central, it is the celebration of everyday life that continues to make the building mythologized and beloved for us all."³ It is not, however, clear what these other mythologies are and which are hers. My essay, by contrast, seeks to reenter these

myths not to repeat them in a new form, but to analyze their logic in the social context within which they were formed.

I seek to make numerous connections between the specific artifact of Grand Central and turn-of-the-century spatial language more generally, between the station and the larger issue of urban crowds and their ordering. I use such tracings and mappings to construct a theory within which to situate certain formal changes in American railway station architecture at the turn of the century. Grand Central was not chosen as a case study because of its typicality or even because of its similarity to other stations. Rather, it was chosen for the degree to which its history has left a trail of images, descriptions, and mythologies that can be tied to larger spheres of cultural activity. The station provides a complex case history within which historical comparisons can be made among earlier and later built forms on the same site of uninterrupted activity. As an architecture of crowds, the later designs for Grand Central were largely driven by circulation issues, but also by the crowds themselves as objects of spectacle within the terminal building.

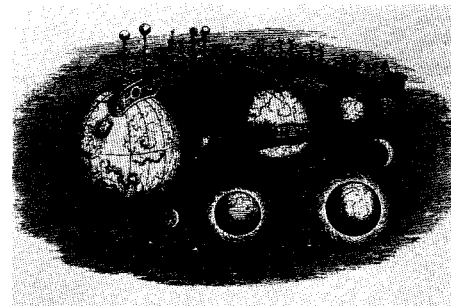
More specifically, Grand Central Station should be regarded not as an independent object of disinterested aesthetic contemplation, but as an intimate and functional part of the industrial apparatus of the railroads. The station buildings and their interior circulation spaces are herein construed both as architecture and as machinery, analogous in function to switching yards and train tunnels. From the other side, I analyze the people who used the station in terms of contemporary representations and mythologies of urban crowds in Manhattan. That is, I view the incorporation of the crowds into the architecture of Grand Central not as an isolated event, but as a strategy of "aestheticization," politically charged and ideologically directed.

Each section of this article, therefore, presents the two participants in the operation: the station building as an apparatus of technological mastery and the crowd as a mythological and aesthetic object of conquest. Each section describes a progressive step in the incorporation of the crowd by the machine, and each crowd mythology is linked to corresponding spatial forms in the history of the multiple Grand Central stations that have occupied the same midtown location.

Threshold of the Machine: The Crowd as Nature

The American industrialization of travel in the nineteenth century generated entirely new geographic zones in the form of railway corridors, mechanical overlays on the shifting mosaic of towns and landscape. By the 1870s, American railroad technology had steadily participated in a geographic conquest that profoundly changed the sense of space across widely scattered territories. In his short essay, "Der Saturnring oder Etwas vom Eisenbau," Walter Benjamin compares the spatial conquest by railroad technology and the novelty of railroad sheds to a cartoon by Grandville (Figure 1).⁴ The drawing shows the planets connected by an enormous cast-iron bridge and the ring of Saturn as a cast-iron balcony. It is the image of the universe, modernized and commodified by industrial engineering. Grandville's satire of this engineered intrusion into the familiar objects of the Newtonian universe was merely an exaggerated version of the already visible intrusion of the large-scale iron machinery of the railroad into the more familiar scenery of the city street.⁵

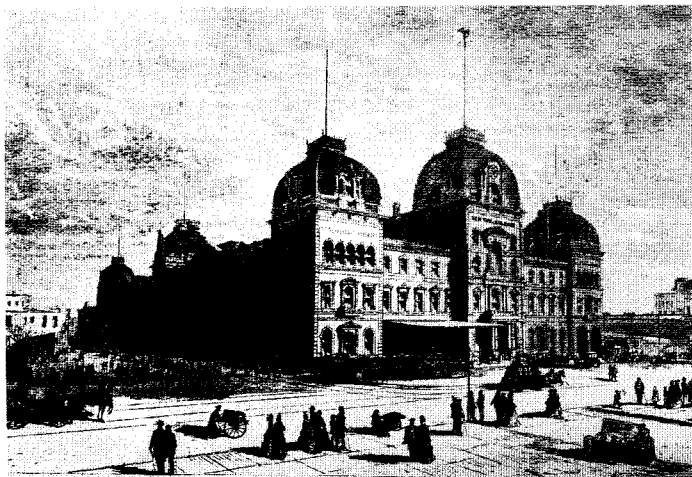
In New York, it was Forty-second Street and Fourth Avenue that became the site of a terminus and portal connecting an alien railway apparatus to a grid of increas-



1. The Ring of Saturn, cartoon. From Grandville, *Un Autre Monde* (1844) (republished 1963).

ingly crowded Manhattan streets. The first rail terminus at this site was a climactic retreat of the railroads from the streets of New York. Completed in 1871 and ostentatiously named the Grand Central Depot, the station was (falsely) reported to be the "greatest structure of its kind in the world."⁶ Elements such as the 200-foot span of the shed and the 681-foot-long Second Empire facade with its mansard roofs attested to the railroads' economic triumph. However, its position at Forty-second Street, then the northern edge of the city, resulted from a long history of hostility from the city government toward the operation of steam locomotives in New York, a hostility that led to the prohibition of steam traction below Forty-second Street. Thus, the terminal marked the lower edge of the Fourth Avenue rail corridor and was jointly used by the three railroads that entered Manhattan.⁷ As a circulatory device, the depot negotiated that delicate point of contact at which the machinery of railroad transportation met the crowds of passengers at the threshold of that machinery. Both a part of the city and apart from it, the depot straddled the gulf between the streets of a nineteenth-century city and the industrial apparatus that had been banished from those streets.

The boundary between these two orders of space, between the slow-paced streets



2. Two views of Grand Central Depot. From *Harper's Weekly*, Feb. 1872.

that defined New York and the high-speed machinery that extended beyond it, was politically charged precisely because of the underlying incompatibility of these spaces. The pressing demand for spatial separation was matched by the sheer terror induced by the raw contact between locomotives and pedestrians in the street. Mention was made in 1871 of a "public sentiment" with regard to the "frequent slaughter of men, women and children by the locomotives of the Harlem Railroad."⁸ In fact, from the perspective of the city street and as reported in newspapers like the *New York Times*, the railroad seemed monstrous, such that "to ladies and to men of timid natures," a pedestrian crossing behind Grand Central Depot "has considerable terrors, for which every way the eye turns, a brazen Moloch comes snorting and puffing, ready to crush out the life and hurl away the mangled body of the unwary or the frightened."⁹

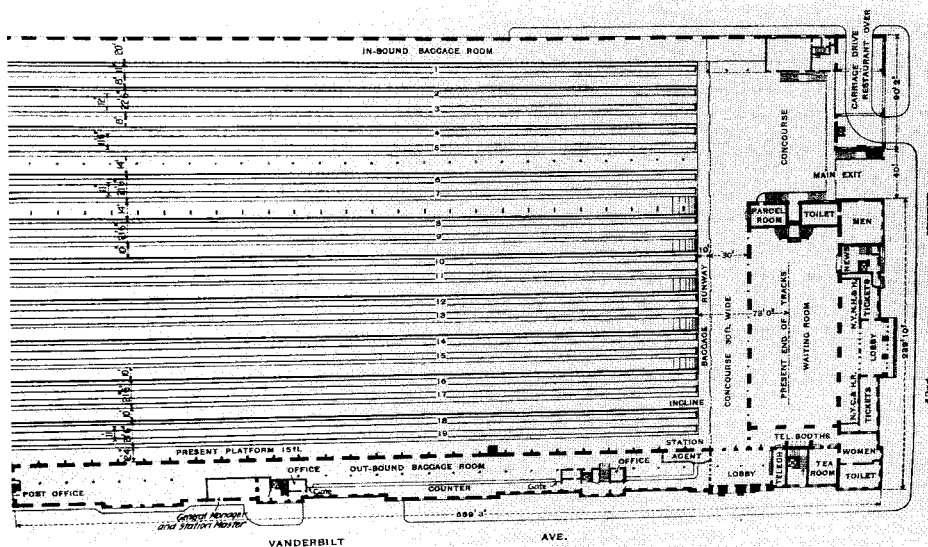
The railway in Manhattan, as much as it was an economically vital link, was equally an unwelcome intrusion and its exposed tracks along Fourth Avenue were soon tun-

neled beneath grade. Through this grade separation, the border between city space and railway space was maintained and reinforced. As the gateway across this hostile border, the Grand Central Depot provided a suture, a point at which one could pass from one zone to the other, as well as a point at which the rupture could be hidden or at least disguised.

From the cultural map of this peculiar spatial dichotomy, it is possible to reevaluate certain widely published images that represented the Grand Central Depot around the time of its construction. One such set of images appeared in *Harper's Weekly* in February 1872, just four months after the station was finished (Figure 2).¹⁰ What is remarkable about these two views is that it is virtually impossible to decipher from the images alone that they, in fact, belong to the same building. Each engraving reinforces the railroad-city dichotomy by emphasizing the most salient characteristics of each side. The two-point perspective from the street not only has the two vanishing points as a reference to the Manhattan grid, but also con-

structs a viewing angle from which the depot appears most like a conventional building. Meanwhile, the interior view is dominated by two spectacles of engineering: row upon row of the enormous bowed trusses and the trains themselves. The exterior view depicts an older type of spatial order, an urban scene dominated by perspectival views of streets lined with finite, solid buildings with individuated forms. The interior view, by contrast, depicts a mass-produced, mechanistic world of seemingly endless repetition in which there is only a transparent boundary between the roof of the shed and the sky. This linear, mechanical space of the railroad is no longer a place in the sense of traditional urban geography with its landmarks and its monuments, but rather the extension of a systematized machinery whose logic explodes the boundaries of urban locality and geographic specificity.

On every side of the depot, the form and materiality of the shed were obsessively concealed from the exterior. Even the railway entrance to the shed at the rear was disguised by an elaborate series of gables and



3. Floor plan of Grand Central Depot. Only one railroad (the New York, New Haven, and Hudson River) has its waiting room at the front of the building. The other two railroads are squeezed in the spaces along the left-hand side of the plan. None of the waiting rooms opens onto the one adjacent. From William D. Middleton, *Grand Central* (1977). (Reprinted from Donald Duke Collection.)

ornament that completely erased the shed's semicircular form. The architecture treated the shed as if it were as alien to the city as the railroad itself. The exterior, meanwhile, was assumed to be a self-regulating area of traffic beyond the bounds of the terminal apparatus, the presumably self-evident zone of the city street, ideally untouched by industrialization and the masses who crowded into and out of the station.

Only on the industrial, railway side of the depot was passenger circulation governed by the apparatus of the terminal. In the waiting rooms and streets immediately beyond the shed, the crowds were left to congregate and converge just as they might anywhere else in the city. Only, of course, the exterior of Grand Central Depot was not just anywhere else, even if it was built to appear that way. The station, by its very particular function, manufactured crowds everywhere on its periphery.

Industrial technology and human agglomeration were inextricable in the vast complex known as late-nineteen-century New York. While the machinery of mass

production encompassed an ever-larger concentration of workers, the machinery of mass transportation compelled ever-larger groups of people to converge on railway stations. Just as the railroads organized new scales of urban and national geography, they also generated zones of intensified crowd activity at urban stations. Moreover, the urban crowd itself was beginning to be construed mythically as a force of nature. In varying discursive contexts, crowds corresponded to those elemental forces of humanity that would either submit to civilization or else rage out of control. In Joaquin Miller's apocalyptic novel, *The Destruction of Gotham* (1886), throngs of working poor burn down Manhattan. The threat is oceanic, and the city is overwhelmed, becoming a "sea of sin and sorrow" in which the tops of buildings are compared to the masts of wrecked ships.¹¹ The main site of this crowd-as-nature was the city street, in which anyone wishing to move through the space was immediately confronted by the overwhelming force of masses of people. Another passage from the

novel describes the protagonist, helplessly caught by the crowd that animates the length of Broadway. On this street, "the sidewalk was a rushing river of humanity, flowing upward and on, with the thundering vehicles."¹² The type of street described by Miller was the disquieting alternative to the idealized serenity of strolling pedestrians shown in the exterior engraving of Grand Central Depot fifteen years earlier.

The dichotomy between mechanical power and human chaos, which became entrenched in the culture of circulation at Grand Central Depot, corresponded to a wider set of perceptions concerning the simultaneous proliferation of machinery and population in Manhattan. By the turn of the century, it seemed that the very triumph of technology coincided with the breakdown of order in the streets, through the sheer force of the overwhelming numbers of people. *The Education of Henry Adams* describes the New York of 1904 as this kind of conundrum. On the one hand, technology had asserted itself over the urban geography such that "the cylinder had exploded and thrown great masses

of stone and steam against the sky.”¹³ On the other hand, such changes had also produced a crisis among the crowds in the street such that “the city had the air and movement of hysteria” and the observer who looked at “the turmoil of Fifth Avenue . . . felt himself in Rome under Diocletian, witnessing the anarchy, conscious of the compulsion, eager for the solution, but unable to conceive whence the next impulse was to come or how it was to act.”¹⁴

This vague threat of social anarchy arose from an idea of uncontainability. The city as a social-industrial apparatus insufficiently accommodate the masses of people that were drawn to it so that at any moment the crowds threatened to boil over, crash through, or in some way pose as the equivalent to a natural disaster, and the passenger spaces at the Grand Central Depot became a particularly acute example of this inadequacy. The depot was heavily criticized in the *Railroad Gazette* as “entirely too small for the business to be done. We find here long, narrow waiting-rooms, cheerless in the extreme. Through these waiting rooms the ceaseless throngs pour, circling around the benches and posts and booths and counters. . . . They can emerge from these dens only through doors that are kept locked until a few moments before the departure of trains.”¹⁵

That the depot generated crowd activity that was quickly viewed as out of control had largely to do with the fact that the depot had no spatial arrangements to encompass the surging passengers. The problem of the crowd was displaced to the exterior of the apparatus, to the small waiting rooms, and to the streets. For departing passengers, each of the three railroads maintained separate entrances and waiting rooms, widely separated and without internal connections (Figure 3). These narrow waiting rooms conformed to a space bounded by the walls of the shallow office

building. Arriving passengers lacked even this margin of transition and were pushed from the shed directly into the street.¹⁶ Passengers changing from one railroad to another were compelled to leave the station and reenter at a different point.¹⁷ In this way, circulation at the depot was constructed as a series of separate border crossings between the city and the railroads.

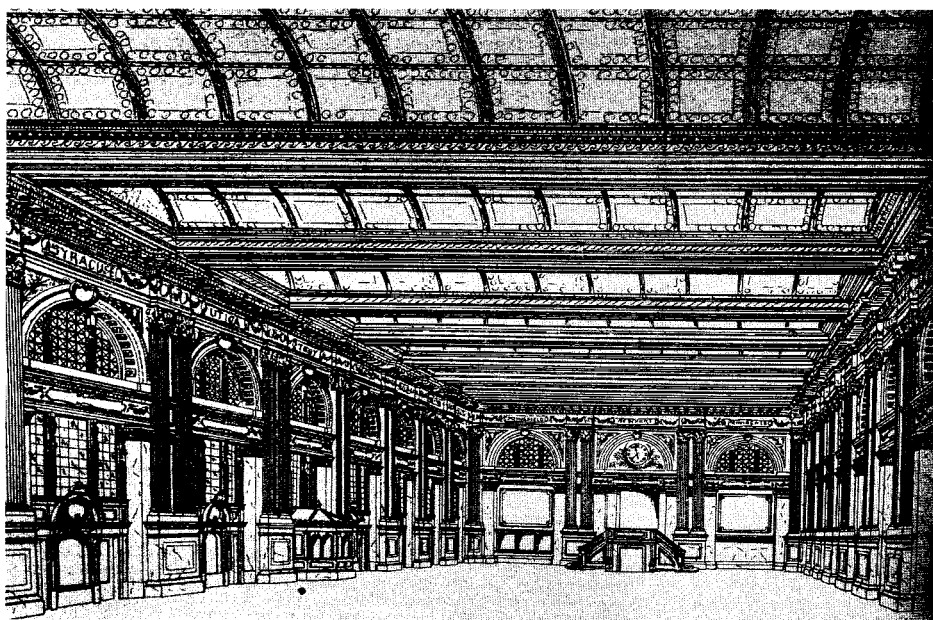
This method of circulation was almost immediately a disaster. Less than two months after the station’s opening, the *New York Times* condemned the station under the headline “A Public Nuisance.” One among numerous witnesses attesting to the inconveniences and outrages suffered at the Grand Central Depot stated that the passengers “are passed in like hogs. Just before the train starts—sometimes only ten minutes, the doors are opened and there is a scramble pell-mell. Hats are knocked off, people kicked in the shins, trampled on the toes and pushed this way and that. I have seen women treated shamefully in that way. I have known them to be left behind for two trains after they have been waiting a whole hour, but could not get through the gate.”¹⁸

What is fascinating about the description of this circulation is the regularity of its chaos and the animalistic regression of its participants. Body spaces are violated, assaults take place, codes of behavior break down, and women are “treated shamefully.” The station appeared to reduce the crowd to a precivilized condition of uncontrolled nature, both appalling and dangerous. The railroads’ conquest of geographic space having ended at the perimeter of the shed, the crowd hovered as the unassimilable, paradoxical other to the railroads’ territory of mechanical discipline.

Domestication of the crowd-as-nature required a reconceptualization of the station as a circulatory apparatus. Thus between 1989 and 1900, a series of recon-

structions began to assimilate the crowd within the station’s interior. In the alterations carried out by Philadelphia architect Samuel Huckel, Grand Central was transformed into a “head” station in which all circulation and ticketing was transferred to the front of the building on Forty-second Street, and all baggage handling was moved to the sides. Whereas these three functions had previously been replicated separately within each of the three railroads’ separate waiting rooms, they now became centralized and consolidated for all traffic in the station. Furthermore, a new passenger concourse, formed by pushing back the tracks and widening the head platform, now admitted the crowd within the space of the shed. Cast-iron gates separated the concourse from the tracks, which were sunk below the level of the concourse. The shed now took on a double signification: It was both the space of the railroads’ mechanical order and a large-scale industrial enclosure for the crowd pressing at the gates. Thus interiorized within the territory of the railroads, the passenger crowd was here spatially unified and discretely separated from the undifferentiated crowds of the city.

The Grand Rotunda, a newly unified waiting room, was situated between Forty-second Street and the concourse to serve as a transitional staging area for the crowds before they encountered the gates (Figure 4). Being “entered through spacious vestibules and approaches from all four sides” and having a marble staircase on the east end, the rotunda gathered passengers into a large, centralized enclosure before discharging them into the concourse and the space of the shed.¹⁹ The crowd entering the monumental space of the rotunda was also homogenized by class. An architectural description states that “an immigrant’s waiting room is provided in the basement of the building with an approach from Forty-sec-



4. Samuel Huckel's Grand Rotunda. From *Railroad Gazette*, June 31, 1899.

ond Street, thus entirely relieving the main waiting room of this class of passengers.”²⁰ The immigrants were also provided with a separate underground tunnel that connected their waiting room to the concourse. In this way, they were invisible to the other passengers until shortly before they boarded the trains. The separation of immigrants, especially poor immigrants, prefigured Daniel Burnham’s 1909 statement that “the time has come to bring order out of the chaos incident to rapid growth, and especially to the influx of people of many nationalities.”²¹ The fear of the crowd was also the fear of uncontrolled mixing.

Remasking the Machine: The Crowd as Public

The dystopian view of the urban crowd as uncontrollable nature was not without its opposing ideologies. In a 1901 article entitled “Making the Crowd Beautiful,” American essayist Gerald Stanley Lee put forth a highly charged polemic in favor of progress, mechanization, and democracy, all of which exhibited the spirit of the crowd and, therefore, the spirit of the age. For Lee, the crowd was both the supreme modern force to be reckoned with and a passive ter-

ritory to be cultivated and transformed. The crowd became the new nature that architecture must reflect and incorporate. In pursuing his argument, he stated that “the city is the main fact that modern civilization stands for, and crowding is the logical architectural form of the city idea.”²² Making beautiful crowds and making beautiful buildings became bound up in the same process. Not only did the crowd already embody ideas of urban form, but the crowd itself became an object to be aestheticized.

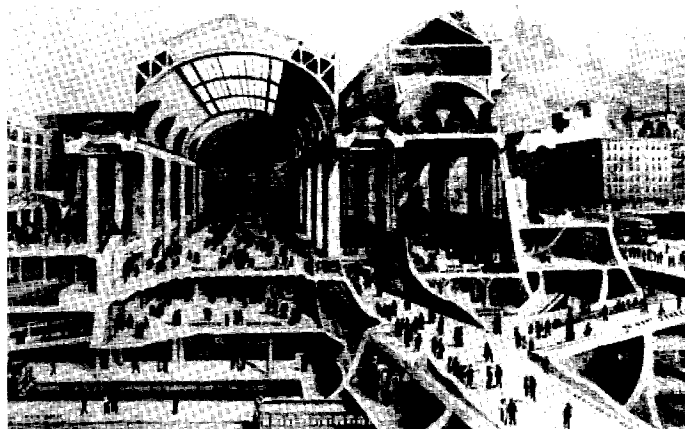
Lee then praised the Brooklyn Bridge not for its engineering qualities, but for its metaphoric expression of social relations. He argued by way of contrast that “the Acropolis was beautiful because it was the abode of heroes, of great individuals; and the Brooklyn Bridge because it expresses the bringing together of millions of men. It is the architecture of crowds . . . symbol of the kind of thing our modern genius is bound to make beautiful before it dies.”²³ In this passage, architecture, transportation, democracy, and crowds all converged in a single cultural apotheosis. Although Lee was describing the Brooklyn Bridge, he might as well have been describing the designs for the future Grand Central Terminal, which, between 1903 and 1914, developed as an elaborate scheme for the spectacular display of crowds in transit.

In March 1903, an open letter from the Fine Arts Commission of New York appeared in the *New York Times*. This letter expressed the intense interest of New York’s City Beautiful Movement in the final form and appearance of a new terminal that was to completely replace the old Grand Central following the electrification of its tracks. The commission felt that railway stations belonged to the public, more so even than government buildings, and therefore that “the public, especially the educated public, should take a very great and genuine interest in all improvements of this character from an artistic point of view.”²⁴ The “public” in this context referred simultaneously to an abstract public, sufficiently educated to be capable of aesthetic judgment, and a concrete, visible public, constituted by the actual railway passengers who would possess the terminal through their presence in it. The rhetoric of binding the crowds to the notion of a “public” set the stage for reconfiguring passenger circulation as civic architecture.

In the same year, the New York Central Railroad organized a competition for the new terminal. Charles Reed’s design, which won the original 1903 competition, involved a monumentalized engineering of passenger movement. Pedestrian circulation was orchestrated on an extensive system of ramps meant to move subway, suburban, and intercity passengers smoothly along gentle slopes through the terminal spaces to and from the trains. For automobiles, Reed had designed a bridge over Forty-second Street that connected a ramp from Fourth Avenue to an elevated circumferential plaza, which in turn brought traffic around both sides of the terminal and back down to grade at Park Avenue. The architecture of crowds was here combined with an early manifestation of the motorized urban society.



5. Whitney Warren's facade, as built, photographed in 1978. From Deborah Nevins, "A Glory of the Metropolis," *Grand Central Terminal* (New York: Municipal Art Society, 1982).



6. Grand Central Terminal, cutaway section. From Scribner's, Oct. 1912.



7. The Baths of Diocletian, reconstruction. From *Les Thermes de Diocletien*, by Edmond Paulin (Paris, Firmin-Didot, 1890).

In 1906, for reasons never made public, the New York Central Railroad supplanted Charles Reed's design in favor of Whitney Warren's outside proposal, which eliminated the ramps and the circumferential plaza. Warren's design was for a terminal of the type favored by the City Beautiful Movement, a beaux arts, neoclassical building of low monumentality and triumphal arch motif (Figure 5). The architectural form of the crowd was embodied in the enormous, vaulted concourse that completely replaced the shed as the largest interior space. Raised galleries at the perimeter of the concourse situated the crowd as a grandiose object of spectacle. However, the New York, New Haven, and Hartford Railroad demanded that a number of Reed's circulation concepts be restored. The final design, therefore, welded Warren's beaux arts monumentality to

Reed's system of ramps, and the intertwining of the two systems produced the new spatial character of passenger circulation at Grand Central.²⁵

The interiorization and organization of the crowd as an aesthetic object in the new terminal was accomplished by exploding the previous dichotomy between city space and railroad space. The new terminal was conceived both as a mechanism of passenger movement and as a new kind of civic space. The machinery of the station, remade into something like the form of a public square, incorporated railroad space into an urbanity from which it had previously been alienated. The 1903 electrification of all rail lines in Manhattan allowed the old shed to be demolished, and with the shed went the most prominent reminder of the railroads' foreign character as an industrial appendage to the city fabric. The tracks were now hid-

den in two layers of tunneling beneath the floor of the concourse. Covered in masonry veneers and classical details, the main volume of the terminal completed the transition into civic space. In an interview with the *New York Times*, Warren traced the origins of the modern station departure area to the "great public place of the city of olden time from which the stage coaches started on its [*sic*] various journeys."²⁶ Thus, the concourse was described as the natural heir to one of the mythical public spaces of the city. As though to confirm this analogy between the terminal building and the open city square, the 120-foot-high ceiling of the concourse was painted blue and inscribed with zodiac constellations, complete with electric lights for the brighter stars.

Beyond such formal similarities, however, the terminal was intended to act as a city by assuming some of the variety of its



8. Theater of circulation, concourse photograph from the 1930s. From *Grand Central Terminal* by Nevins. (Courtesy Municipal Archive of New York).

commercial activity. Warren expressed the opinion that “the up-to-date station resembles a bazaar as much as anything.”²⁷ An opening-day headline in the *New York Times* read “Modern Terminal Supplies Patrons with Home Comforts” and quoted a railroad official who described such facilities as private dressing rooms, public and private barber shops, clothing stores, and a “women’s boot-black room.”²⁸ The theme was reiterated and expanded in a 1928 article in the *Christian Science Monitor* that

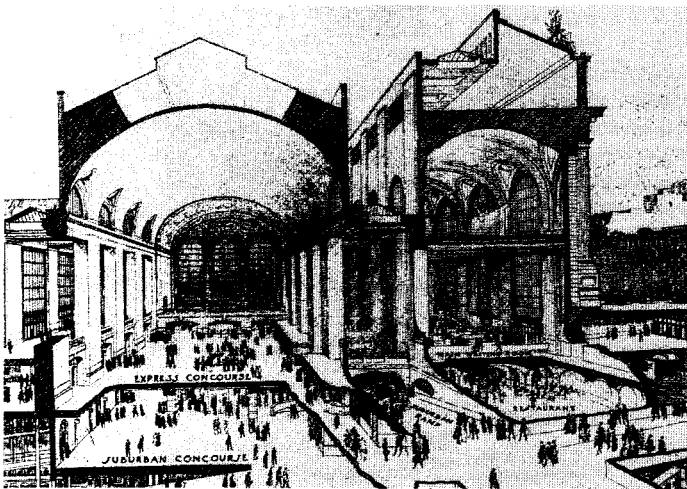
outlined such station activities as visiting an art gallery, borrowing books, listening to music, and seeing an exhibit of railroad antiques.²⁹ The terminal soon became a destination in and of itself, a place to spend hours as a shopper or spectator, without any necessary intention of boarding a train.

Significantly, however, this microcosm of city activity took place in a space very much unlike the commercial streets of Manhattan, as illustrated in turn-of-the-century photographs of Forty-second Street.

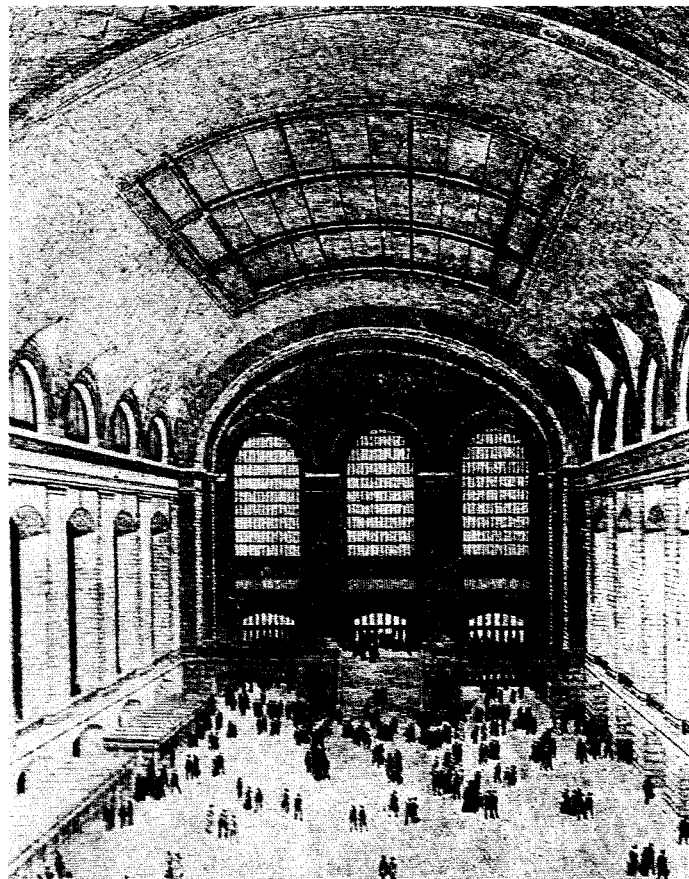
The architectural eclecticism of the city, the advertising competition among proliferating businesses and their signs, and the increasing confusion of its street traffic was replaced in Grand Central Terminal by visual unity: smooth layers of stone, and uniform signage. In this ideally ordered city-within-a-city, multiple commodities and commercial functions, except for the sale of tickets, were relegated to building perimeters, banished to the exterior of the monumental sanctum. In opposition to the commercial street, the terminal generated an ideal City Beautiful image.³⁰ The new city was not only to accommodate the crowds in a pervasive network of arteries, but also to function as a monument to civic unit, signified by the visual integrity of classicism and the commodious spatial order in which the masses of its citizens serenely promenaded, the apparent citizens of a great civilization.

Drawings of Grand Central Terminal in popular publications represented this new crowd-as-public, framed by the motifs of a rationalized monumentality. A series of sectional perspectives of the terminal’s interior showed the main concourse as the central volume, surrounded by a complex network of subsidiary spaces, such as train tunnels, lower concourses, waiting rooms, restaurants, and pedestrian ramps (Figure 6).³¹ Such drawings had their counterparts in beaux arts reconstructions of imperial Roman baths. Edmond Paulin’s sectional perspective through the Baths of Diocletian, for example, registered the enormous scale of the tepidarium through crowds of bathers and a complex network of adjacent spaces and functions (Figure 7).³² Paulin’s drawing represented not only the architectural aesthetics of crowd enclosure, but also complex social organization.

The crowds who paraded across the concourse of the new terminal became part



9. The Engineered Crowd. From *Scientific American*, Dec. 1912.



10. Main concourse, The Monumentalized Crowd. From Scribner's, Oct. 1912.

of a grandiose railroad monument, one that required the presence of the crowds to show itself as the enormous gateway of populations in transit. In its new configuration, the terminal was no longer the abrupt endpoint of immense lengths of tracks, but a vessel for "human flow," in which the bodies of passengers formed a visible cellular mass inside the railroad apparatus. Rather than merely connecting the railroad as an appendage to the city, the terminal possessed the city and its crowds in microcosm.

The design of Grand Central Terminal staged the movement of crowds through a nearly seamless series of masonry-lined corridors and classically inspired rooms so that, as one British reviewer stated, "the machinery of the terminal" would be "less in evidence than the engines in the heart of an ocean-liner."³³ The new terminal was a space devoted to the exhibition of the passengers themselves, not of engineering feats. Whereas the various en-

trances and exits were fairly small and inconspicuous, the central floor area of the concourse was surrounded on three sides by raised galleries and on the west end by a monumental staircase. The people appeared and disappeared at the margins of the space through portals all marked in the same neat, black lettering, but in the center of the space they became collectively an object to be seen. This central circulation area generated a utopian moment in which the crowds were isolated within an idealized civic space, in double isolation from the industrial machinery of the railroads and from the commercial, industrial New York that lay outside the terminal. Surrounded by the commercial functions it served, the concourse showed itself only as monument. The terminal produced a harmonious image of the teeming city that was in opposition to the nightmarish and apocalyptic descriptions of New York crowds that had proliferated at the end of the previous cen-

tury. As a culminating product of that century's railroad machinery, Grand Central Terminal reversed or obliterated nearly all of the conditions and divisions that had characterized passenger circulation at the former depot. The interior of the station was now not only synonymous with civic space, but an ultimate version of it. The urban crowds, once crudely restricted to the margins of the station, were now at its very core. The new apparatus was designed to transform a functional necessity, that of bringing thousands of passengers together at once, from a "public nuisance" to an aesthetic and social asset. From the balconies of the concourse, the throngs of passengers became homogenized, abstract patterns of humanity. Such scenes, initially imagined in architectural renderings, were later recorded as even more dramatic realities in the countless drawings and photographs published after the terminal was completed (Figure 8).³⁴

Choreography of the Machine: The Crowd as Engineering

As early as the 1893 World's Columbian Exposition, the twin developments of neoclassicized civilization and accelerating technological progress appeared as the two manifestations of the triumph over the "wilderness" of pre-Columbian America and thus over nature itself. The transmutation of nature into neoclassical culture and the rational ordering of the natural by means of a mechanized instrumentality were also applicable to chaotic urban crowds. At the same time that Warren's beaux arts monumentality dramatically staged the passengers on Grand Central's concourse, Reed's engineered circulation subjected them to a new species of mechanical order. In place of the original, ferrovitreous apparatus of steam locomotion that had characterized the old shed, the visible interior was now dominated by an ergonomic machinery of crowd motion.

The architectural diagram of this rationalized mobility appears most clearly in those cutaway sections published in numerous variations. In the drawing for a 1912 issue of *Scientific American*, for example, one can see more precisely how the circulation scheme constructed the visual composition of the crowd-in-motion (Figure 9).³⁵ The drawing constructs a nearly omniscient view of the terminal apparatus and its multiple connections, a view that is impossible from the perspective of the passengers themselves; its purpose is to reveal a totality of sequential motion greater than the sum of its parts. The crowds become small, unindividuated clusters of humanity, incorporated within a mechanism of circulation, the entirety of which is invisible from within itself. Thus, careful observation of the drawing reveals which ramps connect to which streets, and the passengers became the particles of motion that animate the totality. The tunnels

for subways and long-distance trains were shown interwoven among the pedestrian ramps and concourses so that a series of visual parallels were constructed between the smooth surfaces along which the pedestrians moved and the tracks along which the trains ran. Passenger circulation was organized according to the model of mechanical mass transit, in which gliding, uninterrupted movements occur in separated channels.

This didactic sectional view was simultaneously a representation of civic architecture and a panorama of a transportation machine. The functional aspect of sorting and transferring passengers was constructed as its own special object of fascination, as a spontaneous choreography of mass transit. The thrill of mobility and motion was aestheticized in the mass movements of passengers. The choreography was made visible at certain privileged points within the terminal, most notably on the western balcony and the raised galleries that surrounded the floor of the main concourse. At such points, the organization of the crowd was made visible to itself. More precisely, it was from these positions of sight that the various passengers or passersby were able to glimpse themselves, organized abstractly as a mobilized mass, as a system of changing constellations rather than as random individuals. The advanced mechanism of human engineering formed the human tableau, which, in turn, the architecture monumentalized (Figure 10). The diagram of rationalized flow merged with the spectacle of human geometries.

Grand Central Terminal was thus the spectacle of an enormous engineered procession. The combination of industrialized travel and urban growth produced a fascination with masses of people converging and moving in an endless series. In fact, on the occasion of the terminal's opening, the *New York Times* made the grandiose announce-

ment that "through this gateway in the coming twelve months, 24,000,000 will pass on their way to and from the biggest city in the western world."³⁶ From the north balcony of the main concourse, the phenomenon of this mass procession could be seen, stretching all the way from the Forty-second Street entrance, "down the first ramp, then across the center of the waiting-room floor, and finally down the second ramp to the floor of the concourse."³⁷ Each of the three balconies that ringed the concourse provided a different view of this engineered motion so that the terminal became a kind of unofficial theater of transit, "a spot of never-failing interest to New Yorkers."³⁸

In this theater, the choreography of engineered movement was unwittingly performed by the passengers themselves, who at various times took the roles of spectators and performers. David Marshall described the intricate movements of the evening rush-hour crowd as "a kind of interweaving of many lines of people" that responded to the opening and closing of various gates. The motion was steady and continuous, so that "the currents formed and divided and came together again without awkwardness."³⁹ Meanwhile, the information desk in the center organized a zone of relative stillness in which the passengers "formed an almost perfect circle the better part of fifteen feet out from the desk."⁴⁰ Such patterns constantly shifted so that each moment of time constituted another turn of the kaleidoscope. Moments of apparent chaos were always followed by a new order so that "once or twice [the pattern] was lost, but only for an instant or so, till the crowd resolved itself differently and, out of a moment's blurring, a new pattern emerged."⁴¹

The compelling spectacle of the main concourse was that of human masses organized simply for the purpose of circulation—the fascination of mobility for its

own sake. There was no ritual purpose to the spectacular gathering other than that of movement itself, whether from city to train or from the terminal stores to an adjacent office building. Circulation, here enshrined in the continually changing patterns of the urban masses, articulated an overriding spatial discipline of the urban crowd. Beneath Grand Central's imposing vaults, the engineered space of mass transit had become the model of a social and architectural order by which the crowd lost its alien, chaotic otherness. The choreography of the machine was also the triumph of the machine, not as an aesthetic or iron and glass, but as a paradigm of coordinated movement through social-urban space.

Conclusion: Architecture and Mechanized Sociability

Engineering as an instrumentality not merely of physical transportation, but of public urban life was the model of an urban sociability in which city crowds followed the anonymous precision of machinery. Motion was regulated, not only by the system of ramps, gates, and concourses, but also by the numerous clocks throughout the station by which passengers were constantly synchronized. This synchronization, which embodied the rationalized sociability characteristic of modern cities, was necessitated by their unprecedented size and complexity. In his 1903 "Metropolis and Mental Life," Georg Simmel wrote that "punctuality, calculability, exactness are forced upon life by the complexity and extension of metropolitan existence. . . . These traits must also color the contents of life and favor the exclusion of those irrational, instinctive, sovereign traits and impulses which aim at determining the mode of life from within instead of receiving the general and precisely

schematized form of life from without."⁴² The city as a social, economic, and technological mechanism required a systematizing order that would coordinate anonymous and divergent masses of people, and the architecture of passenger circulation at Grand Central Terminal was the built manifestation of this "schematized form of life from without." Describing Grand Central in this way, Edward Hungerford praised the rationality of circulation such that "out of seeming confusion there was (an) underlying system, the sort of system that moves unseen and accomplishes much."⁴³

At the same time that this human engineering organized the behavior of the crowd, preventing the apparent breakdown of social order, it also represented the crowd as expanded and animated by modern progress. It was an eternally busy and purposeful crowd, connected to the pulse of commerce and to far-off cities. Within this notion of the crowd lay a progressive, social ideal based on the promise of technological expansion. According to American sociologist Charles Cooley, the technology of communications and spatial conquest exemplified by the railroads had resulted in a new society characterized by an "enlarged" and "animated" social consciousness. In his 1909 book, *Social Organization: A Study of the Larger Mind*, Cooley wrote that "the change to the present regime of railroads, telegraphs, telephones and the rest has involved a revolution in every phase of life; in commerce, in politics, in education, even in mere sociability and gossip—this revolution always consisting in an enlargement and quickening of the kind of life in question."⁴⁴

In Cooley's ideology, this technology of communication, particularly as it promoted face-to-face contact, would naturally tend to reinforce democracy and social well-being. Simultaneously, therefore, such technology would reduce both class stratifi-

cation and social chaos. Thus, technological order produces social order, and "communication, by giving abundance and choice of human contacts, also acts to diversify and refine sentiment; the growth of order disaccustoms us to violence, and democracy tends to remove the degrading spectacle of personal or class oppression."⁴⁵ Cooley associated unruly masses and irrational behavior with rural places, cut off from this communicative technology, so that "we find the mob and mob-like religious revival in the back country rather than among the cheerful and animated people that throng the open places of New York or Chicago."⁴⁶ This cosmopolitan crowd, assimilated to the technologies of spatial conquest, was also the ideal manifestation of a more sophisticated, contented society, unified by the instruments of social communication across vast distances.

Whereas the dystopian views of the crowd-as-nature had been connected to division, exclusion, and uncontainability, the crowd-as-engineering was embedded in notions of continuity, integration, and limitless capacity. The working-class mob that had threatened to burn down Manhattan and the riotous passenger crowd that had seemed ready to burst uncontrollably into the train shed were transmuted by the apparatus of Grand Central Terminal into the image of something quite different. In the place of the uncivilized, exteriorized, and chaotic crowd, there appeared a modern, democratic crowd, organized and assimilated within an industrialized social machinery.

The spectacle of the crowd at Grand Central was that of an urban population homogenized and made equal by an overarching system of continuous transit that incorporated difference within the abstract streams of spatial dispersion. Class differences, in particular, were hidden and segregated from the transit spectacle. "Immigrants

and labourers" were supposed to be "brought into the station and enter a separate room without coming into contact with other passengers."⁴⁷ The private dressing rooms of the rich were similarly shut away. On the main concourse, everyone except the uniformed station officials were part of the same all-encompassing rush of humanity, animated by clocks, schedules, and the machinery of modern transportation.

It was the spectacle of a modernized capitalist society, made wealthy, democratic, and cosmopolitan by the power of the machine. Grand Central Terminal embraced the ideology not only of the urban crowd, but also of a new national society, communicatively linked within a mechanized geography. Grand Central Terminal was a space that displayed the *social dimension* of mechanization as much as it suppressed the iconography of the machine. The terminal was a beaux arts monument thoroughly permeated by a machine-age logic of space. Undermining the modernist historian's false dichotomy between the architecture of historicism and that of the machine age, the terminal's historicism aestheticized its mechanical function just as its mechanical function allowed the monument to be animated by a modern theatricality.

Acknowledgments

Figures 1, 2, and 4–10 reproduced by permission of the Joseph Reggustein Library, University of Chicago.

Notes

1. Carroll Meeks, *The Railroad Station* (New Haven, CT: Yale University Press, 1956), p. 134. Meeks is very much following the historiography of Siegfried Giedion, for whom nineteenth-century historicism represented an unfortunate split between a modern engineering and an outmoded architecture. This view is, of course, the classic modernist one. For

more detail, see Siegfried Giedion, *Space, Time and Architecture* (Cambridge, MA: Harvard University Press, 1941).

More recently, the circulation system of Grand Central Terminal has been again recognized as ingeniously compelling. Thus, Marvin Trachtenberg and Isabelle Hyman in their survey text, *Architecture: From Prehistory to Postmodernism* (New York: Harry N. Abrams, 1986), write that "stations were built after Grand Central, but none approached its brilliance in planning" (p. 474). However, the specifically aesthetic aspects of circulation and crowds at Grand Central have not hitherto been adequately analyzed.

2. Deborah Nevins, ed., *Grand Central Terminal: City within the City* (New York: Municipal Art Society, 1982). The New York Central Railroad emphasized elegance and efficiency in its advertising of the terminal. For one of their most elaborate publicities, see *The Gateway to a Continent* (New York: New York Central Railroad Company, 1938).

3. Deborah Nevins, "A Glory of the Metropolis," in Deborah Nevins, ed., *Grand Central Terminal*, p. 18.

4. Walter Benjamin, "Der Saturnring oder Etwas vom Eisenbau," in *Das Passagen-Werk* (Frankfurt, Main: Suhrkamp Verlag, 1982), pp. 1060–63.

5. A compelling theory of perceptual changes between city space and railway space is given in Wolfgang Schivelbusch, *The Railway Journey* (Berkeley: University of California Press, 1986). Also relevant is a history of the "mobilized gaze," produced in part by rail travel, found in Ann Friedberg, *Window Shopping* (Berkeley: University of California Press, 1993).

6. "The New Union Depot on Fourth Avenue," *Frank Leslie's Illustrated Newspaper*, Nov. 26, 1870: 167.

7. For a detailed history of the railroad lines in Manhattan and the conditions that led to the siting of the Grand Central Depot, see Carl Condit, *The Port of New York*, vol. 1 (Chicago: University of Chicago Press, 1980).

8. "Fourth Avenue Railroad," *New York Times*, Dec. 18, 1871: 1.

9. *Ibid.*

10. "Grand Central Depot," *Harper's Weekly*, Feb. 3, 1872: 167.

11. Joaquin Miller, *The Destruction of Gotham* (New York: Funk & Wagnall's, 1886), p. 130.

12. *Ibid.*

13. Henry Adams, *The Education of Henry Adams* (New York: Houghton, Mifflin, 1922), p. 499.

14. *Ibid.*, pp. 499–500.

15. "A Failing Case in Station Design," *Railroad Gazette* 27 (1895): 530.

16. Alvin F. Harlow, *Road of the Century* (New York: Creative Age Press, 1947), p. 205.

17. *Ibid.*

18. "A Public Nuisance," *New York Times* Nov. 28, 1871: 20.

19. "Remodelling the Grand Central Station, New York," *Engineering Record* 40 (1899): 57.

20. *Ibid.*, p. 58.

21. Daniel Burnham, *Plan of Chicago* (1909) (New York: De Capo Press, 1970), p. 1.

22. Gerald S. Lee, "Making the Crowd Beautiful," *Atlantic Monthly* 87 (1901): 243.

23. *Ibid.*, p. 245.

24. "Would Make Grand Central a Public Monument," *New York Times* (Mar. 15, 1903: sec. 2, p. 13).

25. The most comprehensive account of the complex history of the terminal's design is found in Carl Condit, *The Port of New York*, vol. 2 (Chicago: University of Chicago Press, 1981), pp. 63–84. Although this history raises interesting questions concerning patronage and the politics of the architectural profession, it is less relevant to this thesis. I maintain that the form of the terminal, as built, responded to cultural issues beyond the politics of individual architectural practices and that, as such, the terminal can be adequately analyzed as a cultural artifact outside all questions of authorship.

One proposal, never actually carried out, was Bradford Gilbert's design for a "general waiting" room to fill the entire width of the station's front. In a design that prefigured the 1914 terminal, a third space was inserted between the industrial machinery of the railroads and the civic space of the city. It was a space that although being marked as an extension of the railroad territory, refused the railroads' industrial character. For more information on this intriguing design, see the *Railroad Gazette* 29 (1897): 126–28.

26. "The Great Railway Station of the Future," *New York Times*, Feb. 9, 1913: sec. 6, p. 9.

27. *Ibid.*

28. "Solving the Greatest Terminal Problem of the Age," *New York Times*, Feb. 2, 1913: T, 2.

29. "A Day at Grand Central Terminal," *Christian Science Monitor*, Nov. 1, 1928: 1.

30. The blueprint for this type of architectural ordering was firmly embedded in the ideology of the City Beautiful Movement, in which beaux arts monumentality was to be an instrument of urban unification. In his *Plan of Chicago*, Daniel Burnham outlined the ideal of a "well-ordered, convenient and unified city" (p. 4). According to Burnham, the city should be an organism "wherein each portion will have organic relation to all other portions" (p. 100). This transforma-

tion into an ideal organism was to be accomplished through the demands of an ideal citizenry, impelled "to larger and better achievements for the public good." There was to be a convergence between the "spirit" of such citizens and the organism of the city (p. 8).

31. Slightly different versions of essentially the same drawing appear in both "Monumental Gateway to a great City," *Scientific American* 107 (1912: 484 and Samuel Dunn, "The Problem of the Modern Terminal," *Scribner's* 52/4 (1912): 429.

32. Edmond Paulin, *Les Thermes de Diocletien* (Paris: Firmin-Didot, 1890), pl. XXIV-XXV.

33. Robert Pope, "Grand Central Terminal Station, New York," *Town Planning Review* 25 (1911): 55.

34. The view of the crowds from the west balcony of Grand Central Terminal's main concourse was one of the most commonly depicted scenes of the station. A range of these images, including both drawings and photographs, is assembled in William D. Middleton, *Grand Central* (San Marin, CA: Golden West, 1977). The view from the balcony was apparently an object of aesthetic interest for at least four or five decades after the terminal's opening.

35. "The Grand Central Terminal Station, New York," *Railway Age Gazette* 54 (1913): 282.

36. *New York Times* Feb. 2, 1913: T 1.

37. David Marshall, *Grand Central* (New York: McGraw-Hill), p. 73.

38. "A Day at Grand Central Terminal."

39. Marshall, *Grand Central*, p. 186.

40. *Ibid.*, p. 185.

41. *Ibid.*, p. 186.

42. Georg Simmel, "Metropolis and Mental Life," *The Sociology of Georg Simmel* (New York: Free Press, 1950), p. 413.

43. Edward Hungerford, "The Greatest Railway Station in the World," *The Outlook* 102 (1912): 902.

44. Charles H. Cooley, *Social Organization: A Study of the Larger Mind* (New York: Scribner's Sons, 1909), p. 83.

45. *Ibid.*, p. 180.

46. *Ibid.*, p. 153.

47. Pope, "Grand Central Terminal Station," p. 62.