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The Houston tunnel system: A human approach

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The Houston Tunnel System: A Human Approach

by

Elizabeth Songer

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ABSTRACT

The Houston Tunnel System: A Human Approach
by
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The individual's relationship to the public takes on architectural significance when one is designing for the city. Urban and architectural designs tend to generalize crowd movements and needs, squandering any sense of individuality. The designer must incorporate aspects of personal choice in order to create successful urban landscapes for the individual.

Houston's city streets are designed in absence of the pedestrian; the street life suffers for it. The individual is granted a subterranean street, the tunnel system. Although it is strictly for pedestrians, this system of buried hallways lacks many pedestrian needs. A comprehensible measure of distance and a sense of orientation are missing from its environment.

It is possible to create of this underground world something suited toward the individual and the more intimate crowd while maintaining contact with the crowd of speeding steel in the streets above.
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CHAPTER 1 THE INDIVIDUAL AND THE CROWD

We seem to be at a loss today when it comes to understanding the public realm. Why are modern public spaces so often unsuccessful? Why does no one inhabit them? A favorite cry of architects and city planners is that we have become a non-social society. We wonder why we can't touch bottom as we float in this sea of radar and microchips. Our humanity is beginning to drown in the waves of television, car-phones, faxes, computers, Stealth bombers and virtual reality. Human interaction seems no longer necessary.

Lamenting architects and city designers escape these problems by retreating to the glorious public years of the past. We nostalgically think back to the nineteenth century with its concerned yet jovial public, wondering why we can not achieve such pretty pictures today. How convenient it is to forget the tyrannical and prejudicial powers that made this nostalgia possible, to ignore the misery that was covered over by these images, and to deny how limited a "public" existed in the specific era remembered.

There must be a place in our cities for human interaction. Architects and planners need to accept this technological world of which we are a part and within that find a role for society. If we do not take on our society as it exists, the technologies will overtake us. We risk
becoming scared, sterile and unimaginative. We risk losing our connection with humanity, like Godolphin in V.: "He felt isolated from a human community -- even a common humanity -- which he had regarded until recently as little more than a cant concept which liberals were apt to use in making speeches" (Pynchon 168).

In order to design on a human scale, we must first identify the relationship of the individual to the crowd. The architect and urban designer have preconceived notions about this kinship and have been relatively unsuccessful at accommodating it thus far. However, a fresh and non-architectural approach can be found in the voice of the literary observer. Through literature we can define the enigmatic link between the individual and the crowd and identify those architectural elements that support this relationship.

The individual in an urban surrounding is candidly discussed in literature focusing on the city. This literature does not need to be site specific. The mysterious relationship between individual and crowd can be uncovered by researching literature of fictional places as well as real, industrial towns as well as modern corporate cities. Once this individual/crowd relationship is identified through literature, study of the urban, empirical evidence of sociologists tests this relationship in the modern urban setting.
The greatest assets of the city crowded with people are opportunity and choice. The city offers an eccentric, eclectic pool of opportunities which can be at once attractive and destructive. It is important to cater to both the individual and the crowd as a whole in order to maintain a balance between the attractive and the destructive.

A community, a collective, the public, a crowd, a throng, a horde, a mob.

There are many ways in the English language to describe a group of people in public. As one moves through this list of words, by definition the individual is granted less and less identity. A community is determined by Webster to be "a unified body of individuals" or "an interacting population of various kinds of individuals in a common location." A collective involves "all members of a group as distinct from its individuals." The public is "a group of people having common interests or characteristics." A crowd connotes a "large number of persons especially when collected into a somewhat compact body without order" or simply "a group of people having something in common." A throng is described as "a crowding together of many persons." "A teeming crowd" becomes a horde. And a mob is defined as "a large or disorderly
crowd, especially one bent on riotous destructive action."

The words "community," "collective" and "public" still recognize the individuals in their makeup. "Crowd" begins to favor the identity of the group over the identities of those that compose it. Frederic Bartlett notes this change in human behavior, "I may seem to know a man through and through, and I still would not dare to say the first thing about what he will do in a group" (qtd. in Moscovici 14).

Often, the individual unconsciously gives up his identity and takes on the crowd's shared sensibility. Guy de Maupassant once admitted,

"I have a horror of crowds. . . . They fill me with a strange and unbearable unease, a frightful distress, as if I were struggling might and main against an irresistible and mysterious power. And indeed I am struggling against the soul of the crowd, which is trying to enter me." (qtd. in Moscovici 15)

The definition of the crowd is the basis for the increasingly restless and action-oriented groupings of the "throng," the "horde" and the "mob." The latent violence possible from mobs has tainted the reputations of the "horde," the "throng," the "crowd" and even the "public." Because of this, the modern city often designs sterile public spaces in fear of the power of the mob. "The distinctive sign of nineteenth century urbanism was the
boulevard, a medium for bringing explosive material and human forces together; the hallmark of twentieth century urbanism has been the highway, a means for putting them asunder" (Berman 165).

By creating sterile, anti-riot spaces the city denies any public interaction and therefore creates a greater rift among different people and their groupings. Creating a public and social gap heightens urban tension and increases the possibility for an explosion comparable to an earthquake. San Francisco prefers many small, inconsequential tremors to a large scale earthquake. Both ease the same amount of tension along a fault in the earth, but one is much more destructive than the other. This fear of violent energy in cities is so great that it ignores the need for people in the city to interact and to come together socially. In Nineteen Eighty-Four George Orwell describes the fate of a fearful city:

"It is impossible to found a civilization on fear and hatred and cruelty. It would never endure."

"Why not?"

"It would have no vitality. It would disintegrate. It would commit suicide." (272)

Moreover, this fear completely ignores the individual. By designing a public arena that is safe from mobs, safe for city council and the government, and of course, safe for
big business, the modern city makers create spaces that are wide open and empty translating into oppressive, barren and un-safe spaces for the individual. Ironically, in the book The Age of the Crowd, Serge Moscovici remarks: "If asked to name the most important invention of modern times, I should have no hesitation in saying that it was the individual" (14).

Richard Sennett contends, "A crowd of strangers on the street walking, talking, . . . appears caught together in a web of routine; this life in common is inferior to the real life happening inside each person in the crowd" (Conscience 122). However, if this inferior "life in common" did not exist, then neither could the individual, at least not in healthy relation to the city. In order to preserve the individual, the crowd must be allowed to exist in the city.

This relationship between the individual and the crowd has obviously changed over the developing years. In order to determine whether the relationship is worth saving and where it is headed, one must study where this rocky marriage of individual and crowd has been.
CHAPTER 2 THE INDIVIDUAL IGNORED

The city is seen as an escape from the isolation of provincial life, an escape to the excitement and throngs of the urban realm. However, isolation is readily available in the city as well, often with more intensity than that of the country. In the city one is surrounded by people who ought to be able to free the individual from his solitude. However the presence of countless others often only increases one's loneliness.

Willa Cather's O Pioneers! character Carl Linstrum tries city life but returns to the farm. In remarks as to the worth of city freedom over the labor of the land, Carl says:

"Freedom so often means that one isn't needed anywhere. Here you are an individual, you have a background of your own, you would be missed. But off there in the cities there are thousands of rolling stones like me. We are all alike; we have no ties, we know nobody, we own nothing. When one of us dies, they scarcely know where to bury him. . . . We have . . . no people of our own. We live in the streets, in the parks, in the theatres. We sit in the restaurants and concert hall and look about at the hundreds of our own kind and shudder." (Cather 123)

This is one of the most pressing arguments for an
architecture that relates to the individual and reassures one of his or her individuality when overcome by the crowds.

In *You Can't Go Home Again*, Thomas Wolfe captures this isolation in the hypothetical life of an unknown man who was registered at Brooklyn's Admiral Drake Hotel under the name of C. Green. He has just committed suicide by hurling himself upon the sidewalk from his twelfth story hotel window.

He was no voyager of unknown seas, no pioneer of western trails. He was life's little man, life's nameless cypher, life's man-swarm atom, life's American -- and now he lies disjected and exploded on a street in Brooklyn!

He was a dweller in mean streets, was Green, a man-mote in the jungle of the city, a resident of grimy steel and stone, . . . a stunned spectator of enormous salmon-coloured towers. (376-77)

Wolfe continues to describe the mundane and everyday quality that he imagines C. Green's life to have been. He combines the routine activities of John Does throughout American cities and rolls them into one over-stuffed description of the lonely person symbolized by C. Green. This personification of isolation can not control or hold on to its bleak relationship with the city. It hurls itself at the sidewalk, the cruel image of the city's
repeatability to forgotten souls.

The pavement finally halts all, stops all, answers all. . . . It is the hardest, coldest, cruelest, most impersonal pavement in the world: all of the indifference, the atomic desolation, the exploded nothingness of one hundred million nameless ‘Greens’ is in it.

In Europe, . . . we find worn stone, all hollowed out and rubbed to rounded edges. For centuries the unknown lives of men now buried touched and wore this stone, and when we see it something stirs within our hearts, and something strange and dark and passionate moves our souls, and -- 'They were here!' we say.

Not so, the streets, the sidewalks, the paved places of America. Has man been here? No. Only unnumbered nameless Greens have swarmed and passed here, and none has left a mark. (383)

You see, dear Admiral, this is not a street to amble in, to ride along, to drift through. It is a channel . . . an 'artery' . . . not a place where one drives, but a place where one is driven -- not really a street at all, but a kind of tube for a projectile, a kind of groove for millions and millions of projectiles, all driven past incessantly.
As for the sidewalk, this Standard Concentrated Mobway is not a place to walk on, really. . . . It is a place to swarm on, to weave on, to thrust and dodge on, to scurry past on, to crowd by on. It is not a place to stand on, either. (385)

Wolfe confirms C. Green's complete dependence upon the crowd. Green is overcome with the sameness of all in the city. The complete lack of identity he feels defeats any stimulation or desire to search out that which can be his in the city. C. Green can not exist without being a part of it. Nothing affirms his person as being separate from the crowd. His only recourse to having been consumed by society is to perform an act that is the antithesis of the collective, suicide, the embodiment of complete individual will.

But now, observe him! No longer is he just 'another guy' -- already he has become a 'special guy' -- has become 'The Guy'. C. Green at last has turned into a -- Man! (386)

. . . He exploded . . . to identify a single spot of all our general Nothingness with the unique passion, the awful terror, and the dignity of Death. (388)

Although C. Green snuffed his life of isolation in a book published in 1947, today's cities have yet to learn
from his demise. The architecture erected since Green's death has become increasingly less personal and less approachable to the urban individual and public. Instead architecture is responding to the new crowd, a transcribed crowd of speeding steel and fumes. This racing public can be found on the interstates and main thoroughfares of our modern cities. Suburban directions of growth have drained the city center of its masses, its vitality. The pedestrian is removed from the street, making the street less enjoyable, less secure and less prosperous. The rich are gone from the center, at least at night. Small business follows them out and the tax base disappears as well. No money is left for the public arena. Moreover, the poor are left in the now lifeless center and the poor have a reason to be angry at the city. The absent "haves" fear the "have-nots" might even organize a mob to take revenge on the city. Therefore, the city council is advised not to develop a habitable city center. Keep it sterile; keep it "safe" for the rich who wish to exploit it. "The assumption behind this seems to be that if something can be damaged it will be, so it has to be made out of concrete or metal to be as damage resistant as possible" (Ralph 249).

The wonderful thing about the car is the independence it brings to the individual. The horrible thing about the car is the independence and life it steals from the
individual in the city center. Designs are now concerned with the economy of the masses, forgetting the scale and importance of the human being. The pedestrian and the beneficial crowd is often ignored when designing for the hundreds and thousands. Today it is the automobile, not the pedestrian, that defines a planner's approach to public spaces. Because of the car "public space is an area to move through not to be in. . . . As public space becomes a function of motion, it loses any independent experiential meaning of its own" (Sennett, Fall 14). Richard Sennett testifies that the sidewalk is at least as impersonal and uninhabitable as it was upon C. Green's death some thirty years before if not more so. Similarly, Marshall Berman interprets Jane Jacob's criticism of the modern city in her book, The Death and Life of Great American Cities:

The urban spaces created by modernism were physically clean and orderly, but socially and spiritually dead; . . . . It was only the vestiges of nineteenth-century congestion, noise and general dissonance that kept contemporary urban life alive. . . the old urban 'moving chaos' was in fact a marvelously rich and complex human order, unnoticed by modernism only because its paradigms of order were mechanical, reductive and shallow. (Berman 170)
That interpretive assessment is echoed in contemporary fiction: "Massive public buildings with characterless facades; networks of streets from which the civilian populace seems mysteriously absent..." (Pynchon 440).
CHAPTER 3  RESPECT FOR THE INDIVIDUAL

In successful public spaces the crowd acts as a positive force immersing the individual in its anonymity while allowing him to maintain his "self."

It is not given to everyone to take a bath in the multitude; to enjoy the crowd is an art; and only that man can gorge himself with vitality, at the expense of the human race, whom, in his cradle, a fairy has inspired with love of disguise and of the mask, with hatred of the home and a passion for voyaging.

Multitude, solitude: terms that, to the active and fruitful poet, are synonymous and interchangeable. A man who cannot people his solitude is no less incapable of being alone in a busy crowd. (Baudelaire lines 1-10)

The success of anonymity is evident in Poe's "Man of the Crowd" which focuses on an elderly man in a moral chase of sorts. It seems the old man needs to be in a crowd. Whenever he happens upon an uninhabited street, the old man looks around anxiously and with agony. But when he reaches the crowded sections of town, he is excited and joyous (White and White 480).

The anonymity of the crowd can sometimes give the impression of being so strong that one can hope to completely disappear in its random movement and orderly
confusion:
"... as I understand it you intend to roll up the Birth of Venus, hide it in the hollow trunk of a Judas tree, and carry it some 300 meters, past an army of guards who will soon be aware of its theft, and out into Piazza della Signoria, where presumably you will then lose yourself in the crowds?"  (Pynchon 150)

Crucial to supporting the individual in the crowd when desiring anonymity, is the presence of physical barriers. William H. Whyte noticed in his studies for *City: Rediscovering the Center* that people in a crowd go out of their way to avoid bumping into people; a cooperative regard for each other's space (57). But when personal space risks being interrupted, public barriers become extremely important. Whether a building's edge, a lamppost or trees, a bookstand on the sidewalk, or chairs, these objects help preserve a person's privacy no matter how dense the city street or public arena. As is evident in Pynchon's hypothetical theft, the ultimate barrier to help preserve anonymity is other people.

Theodore Dreiser's *Sister Carrie* used the throng in the street as a mental barrier to Carrie's fruitless pursuit of employment:

When she had gotten safely into the street, she could scarcely restrain the tears. It was not so
much the particular rebuff which she had just experienced, but the whole abashing trend of the day. She was tired and nervous. She abandoned the thought of appealing to the other department stores and now wandered on, feeling a certain safety and relief in mingling with the crowd. (19)

How is it that a public space attracts a crowd in the first place? It must begin by attracting people, individuals. The more who come, the more others will follow. By combining urban design criterion found in Edward Krupat's *People in Cities* (162-63) and in *People Places* by Clare Cooper Marcus and Carolyn Frances (6-7) as well as personal observations, one can narrow down a list of public space needs: Scale, Privacy, Variety, Interaction, Choice, Adaptability, Access, and Security.

No matter whose guidelines on public spaces are being used, each of the entries has a connection to the individual and his or her relationship with the city. In public a person must be able to identify with the surroundings in order to feel comfortable.

One of the most important means of enabling this identification is through scale. Take, for example, the two images below.
Figure 1. Image from page 166 of:


Figure 2. Image from page 3 of:

Each of the buildings photographed is enormous and grossly out of human figure size. Despite this grand size, the cathedral provides a wonderful base which substantiates the building's connection to the ground while simultaneously creating a relationship between the human body and the architecture. The modern building pictured makes no statement about its connection to the ground or sidewalk. More importantly, it completely ignores the human figure.

By providing a place to rest, relax and people watch, the cathedral contributes to the public space without compromising its architectural integrity. On the other hand, the modern building, just as so many of its current neighbors, contributes nothing to the public arena. "At street level the chief impression is one of monolithic austerity. Close up the towers invariably look as though they have been enlarged directly from the architects' models, so the larger they are, the less detail they have" (Relph 169-70). Sidewalks are especially wide and lonely. Made for the movement of the general population, these concrete slabs provide nothing to make one take interest in his or her surroundings.

The scale of the city and the area's neighboring buildings must be addressed when designing for a public space. Concurrently, however, the architect or public planner must have a respect for the scale of the human
figure which is to inhabit the space.

Although office towers do not have the semi-public program of the cathedral, it remains that they are monuments, albeit to the corporate world. As monuments, they owe at least something to the society that helped the monumental owners achieve such power.

A comparison in Brent Brolin’s The Failure of Modern Architecture highlights this issue of scale (26-27).

Figure 3.
The older building in this comparison maintains visual interest from its silhouette to the close view of its various window and balcony details. Brolin contends that the modern building can be understood in one glance. I agree that the modern building has less designed detail than the older building. However, I recognize that the modern building's flatness and banding of interminable windows provides a less evident delight harder to achieve in the older building. The reflectivity of the continuous bands of glossy then opaque surfaces provides a new perspective on the building across the street. This in turn entices the observer to study the reflected originals. Is this enough to absolve today's architecture of the necessity to provide a relationship to the individual? Should current buildings get away with borrowing other buildings' bits of interest instead of creating their own? The answer is "No." Though this reflective quality is visually interesting to a point, the building still has to grant the individual the right of human interaction on the pedestrian level. Most modern buildings do not.

What I find richest about the comparison of these two buildings is the fact that the comparison exists. The old and new are combined to offer the pedestrian a simultaneous view of two very different eras. It is much more than straddling a line. The power felt with one foot in Tennessee while the other is simultaneously placed across
the state line in North Carolina is a fabricated one. However, here in this merging of old and new is the realization of the impossible: the physical splicing of time.

Variety is very important in maintaining the life of a public space. Unfortunately, corporate development has often "taken over whole city blocks formerly occupied by a multitude of different shops, replacing detailed architectural textures and on-street vitality with great blank facades and deserted plazas" (Relph 170). The variety needed exists not only in the facade of a building and its texture, but also in the relationship of a building to its neighbors. A well-used public space professes a diversity in its types of users and attractions as well.

Subtle divergence between neighboring buildings' details provides the individual with food for the eye while declaring the buildings' identities as different. In the street of New Orleans' Vieux Carré one's eye is delighted with a feast of beautiful filigree balconies. It is not merely the balconies' existence that is so captivating, however. Each building's balcony is built at a slightly different height and style from the one next door, thus pledging the owner's declaration of personal identity. The eye is granted a tireless weaving of cast and wrought iron while one walks down the slim, crowded sidewalks.

Of course, there must be a variety of places to sit
and details to regard in order to help maintain a person’s identity while surrounded by the crowd. If nothing speaks to the individual, like a bagel, or a book for sale, he or she risks losing the sense of singularity and becoming fully consumed by the mind of the crowd, the fate of C. Green. "Direct action makes people aware of themselves as individuals who can effect their own destiny" (Lerup 131).

Knowing full well she had no money in her purse, Sister Carrie peruses shop windows:

She couldn’t help feeling the claim of each trinket and valuable upon her personally, and yet she did not stop. There was nothing there which she could not have used -- nothing which she did not long to own. The dainty slippers and stockings, the delicately frilled skirts and petticoats, the laces, ribbons, hair-combs, purses, all touched her with individual desire.

. (Dreiser 18)

Providing spaces with a variety of forms and uses invites the pedestrian to get involved in the space whether through window shopping, playing a game of chess or watching a public performer. Variety also implies choice for the pedestrian. William Whyte’s studies in City deal with the question of choice, especially when he discusses "The Social Life of the Streets" and "The Skilled Pedestrian". Pedestrians make sure, in case traffic blocks
up, that they always have an alternative route, a choice.

If a public space is well designed, it provides a variety of places to relax. Benches are provided, of course, but many times the less obvious areas of public repose are most popular. Low retaining walls often make wonderful benches as do any grand public stairs from the New York Public Library entrance to the cascade of Rome's Spanish Steps.

The more functions each piece in a public arena can perform, the more adaptable and alive the space will become. One way of insuring the adaptability of an area is to make certain that it is readily accessible. In mapping the traffic into successful public spaces, I found that the common element in all the sites is the multiplicity of entrances. This insures a variety of users coming from different activities. Over time the space will adapt to the whims and flows of the pedestrian traffic. Numerous entrances imply a variety of ways out. The individual is free to choose the exit from the space according to his or her next destination.

The relationship of each of these issues to security becomes obvious. If a public area is attractive and used, it will be populated and safe. The barrenness of some modern public spaces, however, fails to attract pedestrians. The emptiness in turn fails to attract more
pedestrians, and the area becomes a security problem merely because of lack of use. In reaction, pedestrians now rely on the safety and security of the womblike private buildings in which they work.

When discussing urban density and streets, Jonathan Freedman maintains:

The more they are used, the safer they will be. Unfortunately some buildings and communities are designed to keep people off the streets, on the theory that, since people get mugged on the streets, they should be kept safely in their apartments or enclosed courtyards. This is absolutely the wrong approach to the problem. The reason streets are dangerous is not because there are too many people on them, but because there are too few. (132)
CHAPTER 4  A PUBLIC FOR SOME

The potential for community and comradery in the crowd and throng still exists and is a source of refuge and security for the individual. In Stephen Crane's *Maggie: A Girl of the Streets*, Maggie lives an unbearable life at home. Her mother is a drunk; her father, a spineless incompetent. She is delighted at a chance to leave the grimy tenement and free herself in the big entertainment offered by the city and its crowds:

From the faces of a score or so in the crowd the self-contained look faded. Many heads were bent forward with eagerness and sympathy. . . . With the final crash of the orchestra they jostled their way to the sidewalk in the crowd. Pete took Maggie's arm and pushed a way for her. . . . They reached Maggie's home at a late hour and stood for a moment in front of the gruesome doorway. (150)

Maggie's only escape from her "gruesome" home is the crowd, the community felt in the theatre districts and social arenas where the individual is addressed. She learns, however, that as the crowd thins in the big city, the security that comes with numbers wanes:

Soon the girl discovered that if she walked with such apparent aimlessness, some men looked at her with calculating eyes. She quickened her step, frightened. As a protection, she adopted a
demeanor of intentness as if going somewhere. . . . After a time she left rattling avenues and passed between rows of houses with sternness and stolidity stamped upon their features. . . . [She] went into darker blocks than those where the crowd travelled. (181-83) 

On these less populated back streets Maggie believes she finds help in the thinning crowd.

Suddenly she came upon a stout gentleman in a silk hat and a chaste black coat, whose decorous row of buttons reached from his chin to his knees. The girl had heard of the grace of God and she decided to approach this man.

His beaming, chubby face was a picture of benevolence and kind-heartedness. His eyes shone good will.

But as the girl timidly accosted him he made a convulsive movement and saved his respectability by a vigorous side-step. He did not risk it to save a soul. For how was he to know that there was a soul before him that needed saving? (181) 

I believe the soul of the individual in the public realm is in need of saving. And, only through an acceptance of our technological society can the individual's rescue actually occur.
We have become a generation obsessed with the "self."
Ironically this obsession has precluded the assurance of
the self in the public arena. Emerging from the "me first"
years of Reaganomics, today's society is consumed with
"me." From the personalization of random Publisher's
Clearing House Sweepstakes numbers to the new AT&T "i" (for
individual) plan, business continues to cater to the "me"
in all of us.

Being noticed or pointed out in a crowd has become so
synonymous with individual success that talk shows have
taken control of the television screen. Through a funnel
of the most absurd "topic of the day," a person can spout
out his life stories, accompanied by a few spicy lies, to
create a packaged image of an important person, an
individual apart from the crowd of everyday Americans.
Just as the rest of us, these people need to affirm their
existence as being important, necessary, and different from
the "other."

If this desire for personal statement or recognition
is so strong, why then do public places ignore it? Why is
the individual, what Moscovici called the "most important"
modern "invention," not given any reference or recognition
in public space?

The crowd today has lost its immediate substance. It
has been consumed by the industries of our era. Through
billions of television sets an enormous, worldly crowd
joins to experience the exhilaration of the individuals who would hope to take home Oscars. Although those of us watching do not really see each other, we feel connection and envy. "Wouldn’t it be great to be that important and recognized?" Alas, we are not all film stars soaking in the daily attentions of admirers. Each of us belongs to a "new kind of crowd which is immaterial, dispersed and domestic" (Moscovici 193).

Because the public realm fails in relating to the human character, individuals search out a reference on the screen. Our radios and television sets make us all better informed. However, although these technologies can expand the realm of our sympathies, the exchange of ideas does not always educate us about people. The removal of the public realm from the plaza to the television can turn the tragedies of life into personal melodrama. It locks the filmed personalities in a world of stereotypes and generalizations. We no longer converse with each other; we converse with the mechanical objects that inform us. Communication is no longer communal.

La Très Grande Vitesse (TGV) is, to date, the fastest train in the world. Travelling from Paris to Dijon in what seems like minutes, the train flies through a station experiencing a smooth, rocking rumble resulting from the quick change in pressure at its sides. None of the
passengers can tell which station they passed and none can even begin to describe it beyond the blur of color.

The late twentieth century’s desire for speed and time is reducing our society to just that: a blur. It is essential that the designers give that blur definition in order to support the individual. "Transportation and communication . . . have multiplied the opportunities of the individual man for contact and for association with his fellows, but they have made these contacts and associations more transitory and less stable" (Park 125).

When the TGV actually stops at a small platform between the two cities, the passenger gets a glimpse of something very human. Several people deboard the train and reaffirm their human roots with a hug from a waiting family member or just the seat of a bench. Time schedules and advertisements for a local restaurant inform the traveller that he is now re-entering human territory. Those who continue on to Dijon get a glimpse of this human portrayal and then quickly return to their seats to continue travelling to conquer time. The platform and its human values are fast left behind.

The quest for speed is inimical to the pedestrian edge of urban buildings. "The city is a construction in space, but one of vast scale, a thing perceived only in the course of long spans of time. City design is therefore a temporal art. . . ." (Lynch 1). This ephemeral quality is what
keeps a city alive. "The essence of Time is Flow, not Fix. The essence of faith is the knowledge that all flows and that everything must change" (Wolfe 591).

And change it has:

In the medieval town the upper classes and lower classes had jostled together on the street, . . . Now with the development of the wide avenues, the rich drive; the poor walk. The rich roll along the axis of the grand avenue; the poor are off-center, in a gutter; and eventually a special strip is provided for the ordinary pedestrian, the sidewalk. The rich stare; the poor gape. (Mumford 370)

Similarly, by interlocking the corporate buildings in "downtowns" all over North America, the rich have the choice to use the newer, cleaner district of the underground and skyways. The poor, however, are left to the already lifeless streets as they can not enter the private new street of dreams. Many of the rich still use the outdoor streets because the tunnel's unplanned growth renders them comparable to a medieval city only buried under the grid of corporate streets above. The once shunned maze of the medieval street is now the haven of the city's elite.

Lovable "Main Street" is no more. The small business
street has been taken over by dehumanizing phalli that
profess the power of the corporate realm. All the while,
young the individuals on the street who created that
realm. Small business chokes under the dominating mystique
of the architecture.

Oddly enough, a person's need to make choices and
recognize his or her own individuality is satisfied by a
displaced "Main Street." The tunnels underground and in
the air are weaving these competing, pompous belches of
American commerce into a web that ironically serves
eyeforday life and small business.

This new corporate "Main Street" may not be straight
or even centralized, but it is discreetly providing some of
the essentials of public space. One person in a "crowd" of
five people in a smaller, narrow, personal space with store
front choices is marvelous compared to one person in a
"crowd" of five on a bland, endless slab outside a cold,
corporate giant. The skyway and underground walkway
systems are filled with small businesses such as banks,
dentists, travel agents, places to eat and card shops. Put
postcards or books on sale outside the entrance to a store
and a passer-by with a little time to kill will tarry.
Browsing provides a possible customer for the store and a
sense of choice and control for the individual.

These tunnels, however, are not the final answer to
the problem of the unpopulated public arena for several key
components to successful public space are missing. The tunnels are limited to building users and therefore have a limited sense of freedom. There are no public speeches, no loitering, no free game of hopscotch on the paving patterns. One's sense of orientation is lost in these streets with ceilings. There are no vertical elements, no monuments to guide one through the underground city. Ironically, the corporate giants which created the tunnels are all above ground and unable to provide any visual map to the pedestrian.
CHAPTER 5 DESIGNING FOR THE INDIVIDUAL

In the days of great popes and kings the strong urban designs of endurance were dictated. These designs were driven by the desire to outlast the human body; the rulers wanted to achieve an eternal life in stone that would be recognized one hundred, even one thousand years later. These were ages when small lives meant very little and large lives "deserved" longevity. These papal and regal public spaces are usually successful in both their permanence and their gesture toward the individual. Often that gesture connotes the person's inconsternacy when compared with the pope, the king or God. Nonetheless, the gesture is made. Their permanence was achieved through control of the entirety, the public arena and all buildings around that arena. The design could be self-contained and complete, for the buildings in it and surrounding it were complete and permanent as well. If they were not, the ruler bought the land and created something permanent in the design.

Today, however, we are a society of impermanence. It is seldom that one person controls enough to create something as fixed and independent as was done a century ago and before. Rockefeller Center is the exception. Now, things become old much faster. We measure in microseconds and in money. We have placed a microscope and a price tag on time. Longevity can only be achieved through
adaptability.

If a modern public space is not to bend with the times, to be molded as the public and its individuals change, then it will destroy itself by its own stability. Ironically, if a public space can develop alongside its users, it will become important to them and permanent. It will continue to exist, even though it is always changing and maturing. To stay alive the modern social space needs a combination of yesterday and today, one to anchor it in its beginnings and the other to help direct where it is going. "Cities need a mingling of old buildings to cultivate . . . diversity" (Jacobs 195). Because this space needs to be able to change, it must first be open for interpretation as Richard Sennett suggests (Conscience 196). One can not design a completed plaza and expect it not to expand and contract with the winds of public fervor.

The designer must insure that a public space can be used in many ways; this guarantees that there will be a variety of users and a variety of change. In Landscape, Lewis Mumford comments,

Now the great function of the city is . . . to permit, indeed to encourage and incite the greatest possible number of meetings, encounters, challenges, between all persons, classes and groups, providing as it were, a stage upon which
the drama of social life may be enacted. (qtd. in Jukes 67)

Choice and other variable components in the public arena allow for the vitality, possibility and change for which the city is known. They do not preclude any of the usual despair and corruption, but might at least reduce their levels. The good versus evil combination is inevitable and even enviable in a city. Throughout Voltaire's satire, Candide travels the world suffering all kinds of horrors and atrocities in what he was ironically taught to be the "best of all possible worlds." When he and a companion happen upon El Dorado, they quickly get bored and tired of its perfection and steal back to the world of wonderful wrongs. The city derives its vigor and life from the struggle and despair that it creates.

A great city tends to ... lay bare ... all the human characters and traits which are ordinarily obscured and suppressed in smaller communities. The city, in short, shows the good and evil in human nature in excess. (Park 130)

The greatest assets of a city crowded with people are opportunity and choice. The city offers an eccentric, eclectic pool of opportunities which can be at once attractive and destructive. It is important to cater to both the individual and the crowd as a whole in order to
maintain a balance between the attractive and the destructive of the city.

Society tends to generalize the members of the crowd into one entity with one personality which leaves out any recognition of the individual. Urban and architectural design tend to generalize about crowd movements and needs, ignoring any sense of one person's direction or desire. The designer needs to incorporate aspects of personal choice in order to create a successful and modern, urban landscape for the individual. Then, like Walt Whitman, the individual can choose to descend to the street.

When million-footed Manhattan unpent descends to her pavements,

. . . . . . . . . . . . . . . . . . . . . . . . . . . .

When Broadway is entirely given up to foot passengers and foot-standers, when the mass is densest,

When the facades of the houses are alive with people, when eyes gaze riveted tens of thousands at a time,

. . . . . . . . . . . . . . . . . . . . . . . . . . . .

I too arising, answering, descend to the pavements, merge with the crowd, and gaze with them. (lines 9, 16, 17, & 20)
CHAPTER 6  THE TUNNEL SYSTEM

The Crowd in Houston seems to consist of those indispensable cars in the street instead of the people who drive them. Today's architecture responds to this twentieth century crowd rather than to the individual who leaves the car or breaks away from it. In Houston the pedestrian often bypasses the street altogether and navigates the city in the tunnels some twenty feet below the surface.

Houston's Downtown Tunnel System is a 6.3 mile continuous passageway connecting over fifty buildings. The owners of these fifty-odd structures actually jointly own the tunnel system (Lord 10-11). Downtown's property lines extend to the center of the street; the city is granted an easement for public utilities under the streets but has no jurisdiction over the streets themselves. Therefore, tunnels are owned and maintained by private companies.

Beginning in the 1950's tunnels developed as individual connections from building to garage. By the 1970's there were enough bits of subterranean passageway to begin linking the pieces together, creating the shared system the tunnels are today.
Figure 5. These four maps show the extent of the tunnel system in the 1950's, 1960's, 1970's, and 1980's to 1990's.
Along the tunnel's path are rented spaces, small convenience shops and services that make the tunnel system a veritable street under the street. Houston's tunnel system connects over an estimated 25,270,000 square feet of office and retail space. From Woolworth's and MacDonald's to City Bank and Texaco the tunnels bring together a wide variety of pedestrians either trying to escape the heat or rains above or just getting from point A to point B.

Many people view the tunnels as mere transportation devices. Extruded concrete boxes, costing anywhere from $1,000 to $10,000 per linear foot, provide an air conditioned and rain protected passageway through which people simply pass left shoulders as they cross paths en route to a business meeting or the comfort of their air conditioned car (Lord 11).

Figure 6. Basic pros and cons of the tunnel and the street.
Figure 7. Under construction, a section of tunnel connecting One Shell Plaza to First Interstate Bank.
Old Main Street was keyed to the pedestrian. There were numbers of shops in which to tarry. A multitude of choices and opportunities existed. The built edge at street level was presented at a scale that made reference to the human body. There was contact with the environment. Whether from the weight of the sun’s great heat or the rain’s wet winds, old Main Street’s edge provided shelter while allowing the pedestrian to be a part of the elements.

A sense of measure existed in the rhythmical passing by door after door or block after block. Even if a pedestrian was not interested in buying something, he was still getting a response from the built environment that accompanied his journey. This perception of distance and the subconscious delineation of space helps the pedestrian have command of his surroundings and his movement therein.

Figure 8. Photographic analysis. Image from Moorhead, Gerald. *Main Street Houston*. Houston: American
Because of the speed of our age and the billboard mentality that accompanies it, the city has become impersonal and anonymous. Compare today's urban architecturally blank walls to the smaller pedestrian edge of the street once geared to the slower pace of the stride and the stroll. Even today's driver eventually gets out of the car and takes on the city at a human scale, yet he finds today's street lacking in any response to his human size or human needs.

Figure 9. Photographic analysis. Image from Moorhead, Gerald. Main Street Houston. Houston: American Institute of Architects, Houston Chapter, 1992. 11.
Figure 10. Photographic analysis. Image from the cover of *Cite*. Houston: Rice Design Alliance, Winter 1987.
Some of the orphaned conveniences of Main Street's departed pedestrian life have followed the lowly pedestrian into the extruded box and created an interred Main Street. The tunnels can provide a sense of human scale in the existence of small shops or idiosyncratic pauses or breaks in the construction resulting from the piece-meal growth of the system itself. But, the tunnels still lack the life of a public "Main Street." Much attention is put on the smaller details in entrance lobbies; however, there is no cohesion over the system and certainly not enough detail throughout the system to set up any sense of measure or continuity. Often the only reference to the human body is a lonely hand rail on one side of the extruded box. Given their divorce from the modern traffic-trodden street, tunnels have a chance to take on a pedestrian at a walking speed, but they fail to do so.

The Houston Tunnel System is used by over 200,000 people a day (Hagstette). Increased use of tunnels necessitates the creation of more human spaces and references in the system. The tunnels have grown independently and haphazardly. They resemble medieval streets in their development and cause of confusion. However, in a medieval town, one can find reference and orientation from the feudal towers and religious spires that rise out over the city, demonstrating their power and control over the city's inhabitants. Houston's power
centers, like the feudal towers, rise boastfully above the city; however they cannot perform their vertical function. The inhumed pedestrians cannot see the towers for the box that saves them from the extremities of weather and the outside world.

Figure 11. Section of tunnel underneath Louisiana.
Figure 12. Photographic analysis. Advertising in the tunnels.
Figure 13. Photographic analysis. Entrance lobbies.
Figure 14. Photographic analysis. Corridors and connections of separately owned sections of tunnel.
CHAPTER 7  A SYSTEM OF MEASURE

The experience of the tunnels is very similar to that of the interstate. The stimuli are reduced to such a minimum that there is a release from real time and space. The body willingly sinks into a kind of hypnotic state that carries the driver or tunnel traveler out of any sense of time or distance.

There are points at which one resurfaces from this hypnotic state, points of decision being the most crucial of these. On the highway, once the driver knows he is going the right direction on the right road, the mind is free to wander as the body simply follows the traffic or the road itself. But, at some point the driver will have to concentrate on looking for the correct exit and maneuver the car around others to catch that exit.

Because these stretches of suspended awareness are in a sense timeless, the points of actual awareness and decision are perceived as rhythmical, repetitive and as forceful as the arches in a Gothic nave or the gasps of light that eminate between structural members. This repetition and rhythm is a documentation of progress, of pursuit, and of advancement. Rhythm is a necessary ingredient to achieving a sense of measure and command of space. So for the interstate or the tunnel, the repetition does not have to be mathematically based; the suspension of time can extend or contract the intervals between the beats
of activity. As long as the rhythmical activity occurs and is recognized, the individual experiencing it relates better to the space.

Figure 15. A Subterranean passageway at Hadrian's Villa. Photograph by Mark Oberholzer.

These points of heightened awareness do occur in the tunnel system, but they are not recognized as such. The hypnotic state of not needing to tell the body what actions to follow and allowing the mind to dream of other worlds often takes over in the tunnels. The extruded boxes can continue for stretches as long and straight as 400 feet. The pedestrian has only the mesmeric sound of his own shoes taking the hard floor to accompany the journey.
Once inside this labyrinthine world no clues are given as to its progression. At intersections of one piece of tunnel to another, the dream is put on hold and the "driver" must negotiate blind corners, make uninformed decisions, and decipher a myriad of signs trying to lessen the complication of the maze.

Creating an orientation system for the tunnels must come from within the sensibility of the tunnel system itself and not from the grid of city streets. The tunnels have their own order which is not governed by the Cartesian world above. One cannot just drop a sign down saying "Milam Street Overhead" and expect the pedestrian to understand any better where he is going or where he has been. The tunnels are very much a lab rat's maze, and a system of negotiation for pedestrians must be created by and about the tunnels themselves.
Figure 17. This map extracts the space of the tunnel and its accompanying retail areas from any reference to the streets above.
Figure 18. Below are four maps of the tunnels that highlight specific conditions in the tunnel system.

corners and intersections | points of access
| to street level

stretches of tunnel | stretches of tunnel
directly beneath a street | directly beneath a sidewalk
By combining the above maps, points along the system with common traits can be identified. Each circled section of tunnel occurs at a point of decision, a corner or an intersection. While the joints occur directly underneath a sidewalk, each avoids any street access.

Figure 19. Map of the proposed system of nodes.
What is lacking most in the tunnels is a sense of measure and orientation. Concentrating on the nodes of decision and awareness mapped in the tunnels, this design thesis creates a method of measure to instill a sense of direction and distance, thus evoking a human response from the tunnels.

Capitalizing on the natural points of disruption to create a series of releases in the hypnotic state of the corridors, the design achieves a feeling of stimulation and recognition of place throughout the system. Though the tunnels are missing the medieval city's monuments of orientation, the developed corners become monuments in plan, bread crumbs to help the pedestrian measure the space and hence feel comfortable and accepted as a part of it.

At these points of higher awareness the design introduces elements that require a bit more attention than is available in the hypnotic state of the corridors. They are the perfect places at which to point out what the tunnels are missing by opening up to the sidewalks above. Let the verticality be emphasized. Let the sun and rain come in if only for a moment. While the corridors are primarily dealt with in plan, corners are about the section.
Development of the System of Nodes

Section
In contrast to the plan oriented corridors, Nodes should be developed sectionally to support a heightened awareness of position and movement between pedestrians in the tunnels.

Choice
Nodes should be designed to provide choice of direction and movement within the system.

Access
Wherever necessary level changes between building basements or around civic utilities should accommodate 1' in 15' ramps to accommodate disability access.

Lighting
Light source of nodes should be different than that of the connecting corridors.

Interior/Exterior
Tunnel should be opened up to street level wherever possible.

Reflection
Reflective surfaces should be used to expand space in tunnels and heighten awareness amongst pedestrians in the tunnel as well as between tunnel and street.
This diagram shows three nodes in succession comparing traveling the tunnel's halls to crossing the city blocks above ground. Even though one understands the city block to be of a fixed interval, in time it relies on many variables; how long it takes the light to change and how many people are on the sidewalk, for example. So even though the distance between the rhythmical elements in the tunnel do not seem consistent in time or distance, they remain akin to the rhythm of the blocks and streets above.

Figure 21. McKinney, Main and Fannin Streets.

One material very adaptable to the human body and its needs of recognition is glass. A window allows us to view things without feeling either intrusive or exposed. It also acts as a mirror allowing us to see ourselves in relation to the built environment surrounding us. Although we do not always want to be watched ourselves, it is human nature to enjoy watching others. Windows permit this type of innocent voyeurism to take place without being intrusive.
Figure 22. Photo Collage. A corner window indicating possible views and reflections.
The photographs of the corner window shown above allow a myriad of reflective conditions and views. A corner condition, which could feel closed and evoke anxiety, suddenly is opened and relaxed, even exciting in its multiple prospects. The control exacted by the closure of the tunnels precludes haptic events. Corners symbolize the unknown. In the tunnels they end axes without a gesture of the spacial transition which is about to take place. However, the joints in the system could open around corners and up to the streets, taking the photographs of the window and using the concept not only horizontally but also vertically. Here interest and activity, whether mental or physical, break out of the tunnel mind set and have the possibility to explore.

Not only do the joints get a different spacial feeling by exploding the sense of size and sight lines in plan and in section, but they also gain a different sense of light. The possibility of breaking the flow of fluorescence and letting in daylight is a drastic change for the tunnels and sure to set off the corners and joints as something different, thus setting up the possibility of using these points as reference to measure. Of course the night time reciprocal of light emanating from the depths of the city’s bowels completes an exchange of culture and class uniquely possible with street versus underground.

The tunnels overlap the corporate and the generic
crowd. Rather than lamenting the tunnels, this twentieth century phenomenon must be accepted. But this does not mean that nothing can be done to expose it for what it is: an escape from the weather, the street, and the less fortunate. Furthermore, it can be improved by giving it some human qualities while simultaneously managing not to destroy it.

By setting up these nodes, at the points of awareness and further opening them to above, the design thesis makes the inhabitant of the tunnel, whether a CEO or a member of the TCBY clean up team, aware that the world above and the world below both exist together. At the same time the design creates the opportunity to reveal the world below to the street above. Clients are not only the corporations who own the tunnels, but also those on the street whom corporations are trying to escape.

Human interaction in public promotes understanding of oneself and understanding and tolerance of others. This of course strengthens society. Buildings today seem to profess that human interaction is no longer necessary, for newer architecture makes no response to the individual. But there must be a place for human interaction if cities are to remain socially healthy.
Figure 23. Sections through the project's store-front window that spans the street level and tunnel level facades. The colored lines denote the multitude of reflective views that arise from the configuration of the windows.

Through reflection and light, the design exposes the street and the tunnel to each other and lets each world give something to the other. Through this device each world has something to contribute to the other, beginning with the simple awareness of the other's existence. The angled, glass panes entice those outside to see in and vice versa. From either side there is more than mere acknowledgement; the windows intensify the views.
Figure 24. Existing corner node underneath Main Street and Palais Royal.
Figure 25. New design of the node. Alternate access is provided with change of tunnel levels. Glazing separates, yet heightens awareness of passing traffic. In north section of intersection, air curtains maintain a barrier between interior and exterior sections of the tunnel.
Figure 26. Sectional elevation of store front windows.

Figure 27. Axonometric of store front windows.
Figure 28. Perspective of store front windows.

Figure 29. Perspective looking north from intersection.
Figure 30. Sectional perspective through east-west section of tunnel.
Figure 31. Night time perspective of store front windows from street level.
In an urban setting, people need to be able to take on the scale of the city through measuring their own progression through its space. They need contact with the elements from which they come and upon which they thrive. They need variety and choice. Humans need to understand their own size and its relation to the magnitude of the city they have built and now inhabit. The city can affirm the individuals as part of humanity while maintaining them as separate and distinct from others.

The city must act as a series of stimuli, but today's stimuli have grown less detailed and farther apart because of our dependence on the automobile. Even so, the human element still exists. It remains that the driver of a vehicle eventually gets out of the car and begins to take on the city at a human scale. This is rarely acknowledged in today's architecture. It is this need that I wish to fulfill, not a desire to nostalgically recall a European public that could never exist in so new a city as Houston, but to provide human provision, interest and respect so the individual is referenced and re-affirmed.

One can view architecture as something trivial and unnecessary, but it is the only art with such public influence. One can choose not to look at a painting or a sculpture. It is not necessary to read a book. But it is hard not to come in contact with buildings. Because of this influence, architects have a responsibility to the
people experiencing their work, a responsibility to the individuals and their identity as some of the many beings making up the city.

"What attracted my eye to this particular scene was not the transparency of the glass but its changing reflections. The next time you look through a plate-glass window at a display of merchandise, you might shift the focus, look at the glass, and study the always fascinating world of reflections." (Ferriss #18)
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