

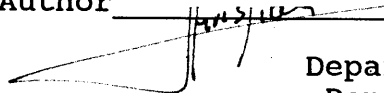
LINEAR SOUNDINGS:
26 fragments of the linear discourse

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AND
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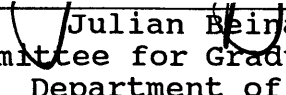
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...to Therese.

LINEAR SOUNDINGS.

26 fragments of a linear discourse.

Keywords: line, streets, roads, spatial references, skyscrapers, linear distribution, velocity, control of space.

"To know is to abstract from the real object its essence, the possession of which by the subject is then called knowledge."

Thus "the real object has to be made of two real essences, the pure essence and the impure essence, the gold and the dross, or if you like (Hegelian terms), the essential and the inessential."

(Louis Althusser and Etienne Balibar. Lire le capital, Paris, Maspero, 1967)

LINEAR SOUNDINGS:
26 fragments of the linear discourse.
by
Christian Marion
submitted to the department of architecture
in partial fulfilment of the requirements of the degrees
Master of Science in Architecture Studies
and
Master of City Planning
at the
MASSACHUSETTS INSTITUTE OF TECHNOLOGY
(February 1987)

ABSTRACT.

This text is a follow-up study for a work that focused on squares that was published by the author as Piazza Pulita [Roma, Officina Edizione, 1983].

The purpose of both works is to comment on the production of sense of linear features of the environment.

The multidimensional character of these features, which includes economic, sociological, political, psychological and aesthetic, or even exclusively, technical components, make it necessary to approach them heterogeneously. That is, a set of observations that must be used that imply multiple points of view: a plurality of pertinence.

For heuristic purposes, these observations are organized from two points of view:

-- A roughly chronological point of view according to which the evolution of lines is seen as a means of social organization and cultural expression.

-- An experimental point of view that attempts to express the effects of linear features of primarily the built environment. The effects focused on are generally space and time effects.

It is the very principle of this research upon the discourses of linearity (and of the text which represents it) that its figures cannot be classified: organized, hierarchized, arranged with a view to an end (a settlement): there are no first figures, no last figures. To let it be understood that there was no question here of a history of line (of a line story) and to discourage the temptation of uniform meaning, it was necessary to choose an absolute insignificant order.

Hence, we have subjugated the series of figures (inevitable as any series is, since the text is by its very nature obliged to progress) to a pair of arbitrary factors: that of nomination and that of alphabet. Each of these arbitrary factors is,

nonetheless, tempered: one by semantic necessity (among all the nouns in the dictionary, a figure can usually receive only two or three), the other by the age-old convention which decides the number of letters in our alphabet. Hence, we have avoided the wiles of pure chance, which might, indeed, have produced logical sequences; for we must not underestimate the power of chance to engender monsters; the monster in this case, would have emerged from a certain order of figures, a "philosophy of line" where we must look for no more than its affirmation.

An approach towards the line rests on simple questions: What is it? What is its nature? Why does it exist?

The focus of this research is to perceive explicitly the collective image of lines through its urbanistic production as well as its models of production and representation.

An approach to the theme of linearity rather than to the actual street, channel or skyscraper, allows distance in analysis and constructive analogies.

To learn means, here, to compare.

When one compares an apple and a grapefruit, one learns about fruit. When one compares an apple and a bowling ball, one learns about symbol. When one compares an apple and a car, one learns about object. When one compares different phenomena that share a single characteristic, we learn about this common feature.

We describe this world of similarities on the basis of paleological thought, where the line is a street, the line is an elevator, the line is transportation, the line is time, the line is architecture.

These stories will teach us about the line as a phenomenon.

THE SPEED AT WHICH LIFE IS LIVED IN THE PRESENT HISTORICAL POINT HAS CREATED A PERCEPTION OF THE LINEAR ENVIRONMENT, THAT IS PARTIAL AND LIMITED ONLY TO WHAT IS SEEN AT A GIVEN INSTANT. LINES ARE BEING INCREASINGLY EXPERIENCED NOT AS FEATURES OF STRUCTURES, NOT AS PARTS OF A WHOLE, BUT FOR THEIR OWN SAKE AND AS IF FROZEN IN A SINGLE MOMENT IN TIME. IN OTHER WORDS, BOTH APPROACHES LEAD TO THE SAME POINT: LINEARITY IS SUPPORT TO DISAGGREGATION OF SPACE BECAUSE OF THE USE OF ITS POTENTIAL EXTENSIVITY.

Julian Beinart, Professor of Architecture,
Thesis Supervisor.

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HISTORICAL APPROACH

A.- FIRST CLUE: EGYPT

Wherein we learn that a human view of the world makes line a frame of reference. Line is a human construct.

What is the perception of the line in the world at scale one?

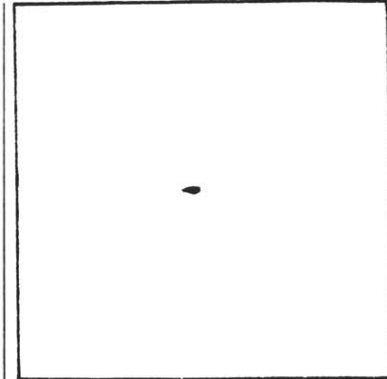
The line could be described as the result of an action, on one hand, and is an existing thing, a state, on the other hand.

Line as action.

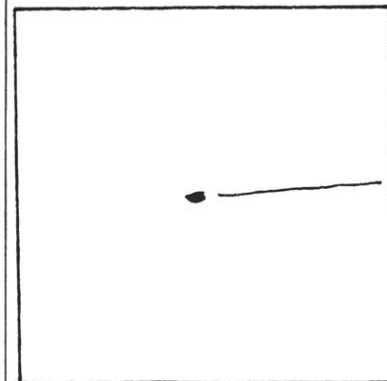
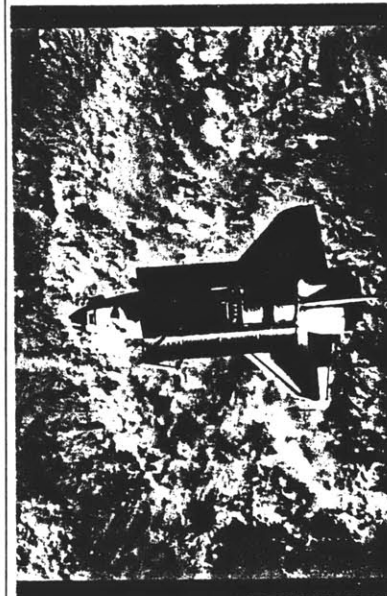
A boat without wakes and sea-stream gives the impression of being lost. The same observation applies to an airplane: when it is a point in the sky, it has the appearance of a useless thing.

This sense of utility is best represented when we deal with a line on paper. Writing has no more sense if nothing remains on the paper: a line is drawn on it, the pen is its instrument. The scope of writing is to leave some marks on the paper, and a line is its sense, a line becomes, at a second degree, its reason of action.

It seems, therefore, that humans secure



we know nothing.



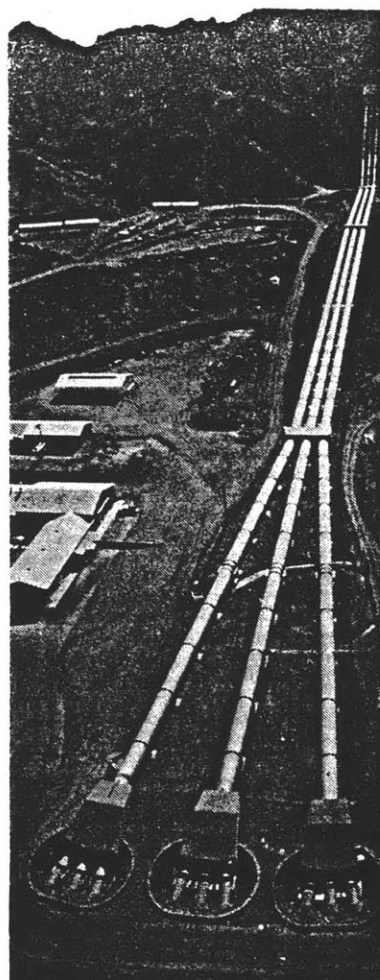
we know a direction and what the point has done.

themselves in leaving a trace, and in consequence, that this trace has a referential essential meaning. It is symptomatic of a situation in which the fact of seeing the static result of a movement confirms the action.

Line as status quo.

A line seems also necessary to the recognition of space. Without a line, or the selvage, we have no means to differentiate two physical elements: no edges. It is the desert at night. A line is, thus, an evident physical reference whereas the sand under our feet is only a physical support.

On another scale, the sky and the earth separated by the horizon line compose the physical landscape in its simplest form. The horizon is a line that refers uniquely to the subject looking at it. This line moves to each movement of the subject. It is at the same time, material and immaterial and it is strictly rectilinear (and, at the same time, there is no way to determine a width for it, as we will observe in "geometry"). It is the model of the infinite, of the untouchable, of the inaccessible, but it



In the first map of roads from Nurnberg Mayor Erzlaub shows street connections (1492). Completely new for that time is the correct scale. Roads, as lines, became represented references.

is also the primary symbol and reality that locates Man in the world. The representation of this world is an immense circle in which we are the center.

The simplest model of man's existential space is therefore a horizontal plane pierced by a vertical axis.

[see Bachelard, "la poetique de l'espace"; Abellio, "la structure absolue"]

Of course, there are points like the stars that localize him, but we immediately note that a sole point does not give him the position in the world, but a direction to follow. The link between two points, instead, as an immaterial rectilinear link gives a spatial reference, and not only spatial directions.

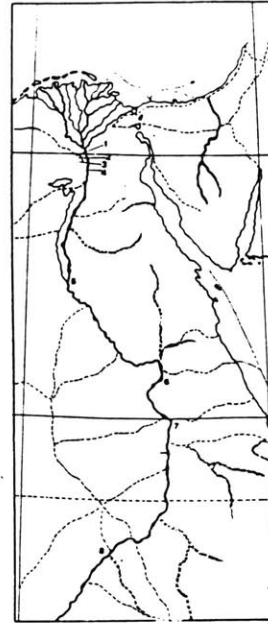
A line is not only a physical locus, but becomes a reference that locates us in our physical existence. We exist because we know where we are. We create these references when we do not have them. A line concretizes a possible means of control of our universe.



This 1641 map of Brother Jung shows that rivers are references stronger than human constructed lines.

The Egyptian landscape offers a first clue to a better understanding of this basic phenomena. Hardly any other country has a geographical structure of such simplicity and regularity. On both sides of the long and narrow Nile valley are deserts which put clearly defined limits to Man's space. Egypt can therefore be described as a longitudinal oasis with a relatively uniform characteristic throughout. Together the basic elements of nature establish a simple spatial structure, with the Nile flowing from south to north and the sun rising from east to west. "These simple bearings are represented in the hieroglyph for "world": a section through a valley with the sky above and the transversaly moving sun inscribed" (see H. Schäfer, Weltgebäude der Alten Agypter, Berlin 1928 pp89) or for "city": a cross in a circle.

The fields on either side of the Nile were divided to form an orthogonal coordinate system with the river acting as a longitudinal axis. The great pyramids were placed along it to form a row of artificial mountains parallel to

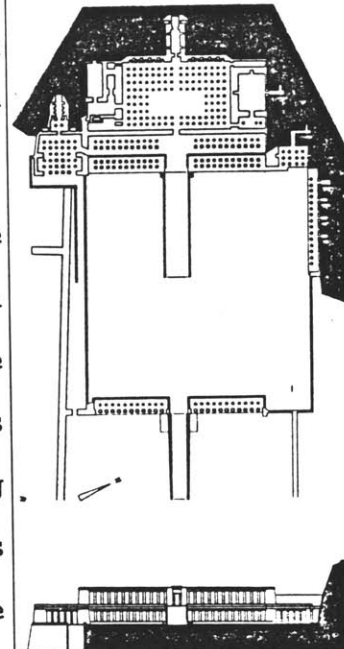


the Nile, at the image of the range of mountains in Upper Egypt. From the pyramids long causeways led approximately at right angles down to the river.

The power of nature, concretized by the regular flooding of the Nile, was to a certain extent, copied to concretize the power of man. The Egyptian temple seems to be one of the first forms using straight lines to represent power: Its spatial composition around a single geometric line, axial composition, creates the building as a symbol of power, whereas the Egyptian vernacular architecture from the same period aggregates different forms.

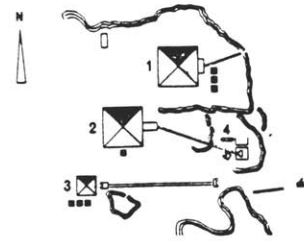
So, planning and architecture were employed to complete and articulate the natural structure of the country. The purpose was to make visible the spatial structure which gave Egyptian man his sense of existential identity and security.

Arguing that "the whole symbolism rests on the accepted correspondance of things, on an intuitively conceived and perceived connection between microcosm and

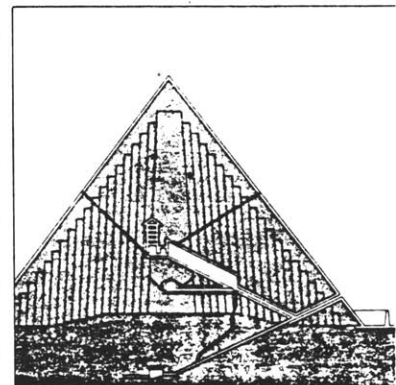


Funerary temple of Queen Hatshepsut, Deir-el-Bahri, built c. 1500 B.C. The terraces are bordered with colonnades, inclined planes and axially making this a work of great originality that still owes much to the Middle Kingdom tradition.

macrocosm" (M.Lurker, "Symbole der alten Agypter", Weilheim, 1964, p.9), Christian Norbert Schulz (in Meaning in Western Architecture, Preager Pub, NY, 1975) concludes that "Egypt's simple geographical structure provides a basis for symbolizing a basis for existential meanings. In the physical environment these were concretized as axially organized and orthogonally structured enclosures, which were disposed in accordance with the great longitudinal space of the Nile valley. This also holds true for the layout of settlement and towns."

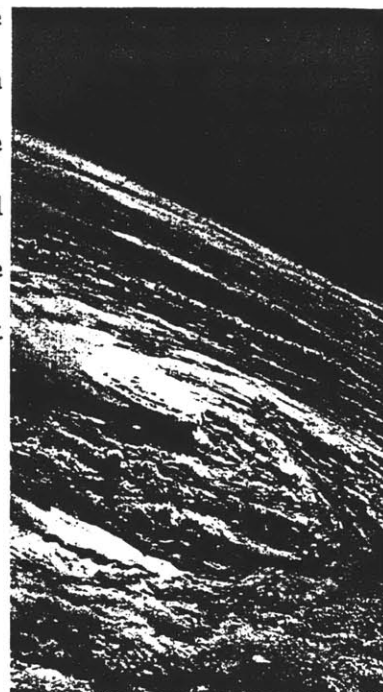


When the natural landscape does not provide references, a line is made up in relationship with the cosmologic field. The Pantheon is one of the most obvious examples of this kind. The sphere that generates the space is composed on two axes: a horizontal axis that leads the visitor to the vertical axis, axis mundi. The piercing of the volume by a line of reference seems to be a general characteristic of monuments. The Egyptians also dig a direction in their tomb-pyramids that relates to a



Cheops Pyramid, Giza, built c. 2600 B.C. Rising to to a height of 146.5 m, this building is a mountain of 2.5 million m3.
 1)Cheops 2)Chephren
 3)Mycerinus
 4)Sphinx.

particular star. In this case the architecture is built on a double vision of the universe, the material that one can touch that produces places and volumes, and the immaterial that here produces internal corridors hooked on it as an accident, an annex branch.



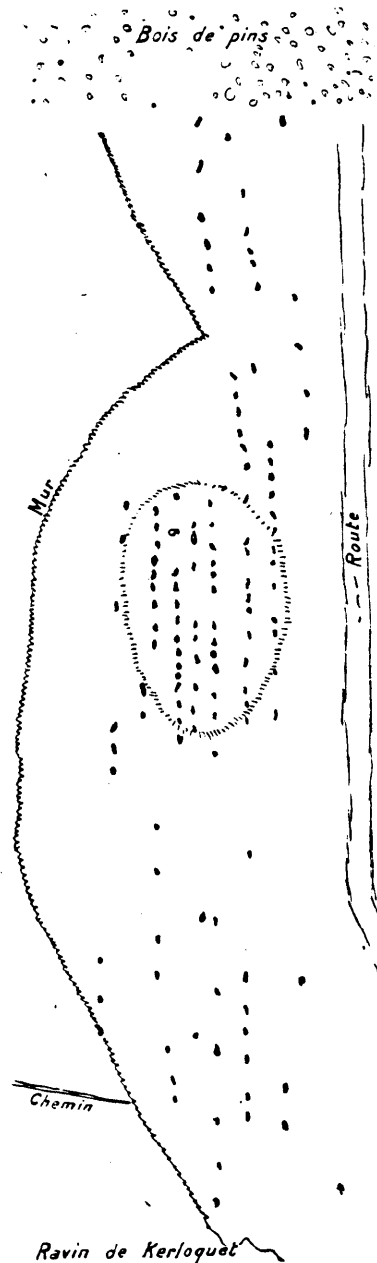
B.-SECOND CLUE: CARNAC (NORMANDY).

Wherein we show that line may be a pure symbolic interpretation of the world.

The alignments of Carnac are another example of an existential dream in reference to space, so far more interesting because they screen a field.

A line was not enough. It should present/represent a reference in its more complete dimension, give a width, or --as far as we are in the field of speculation--, repeat its sign, as to show the infinite, the always possible iteration. The emphasis is on the innumerable thing, in the same direction. Thus would it not be the combination of these existential references that give to the North-American cities their power and their security, their propensity to expansion?

Whereas the alignments of Carnac seem to be a mythical extension and mythical demonstration of control on space (they say: "we know...the existence of space"), those of North-America seem to generate a rationality of physical extension, of a different order (they say:"we know...the



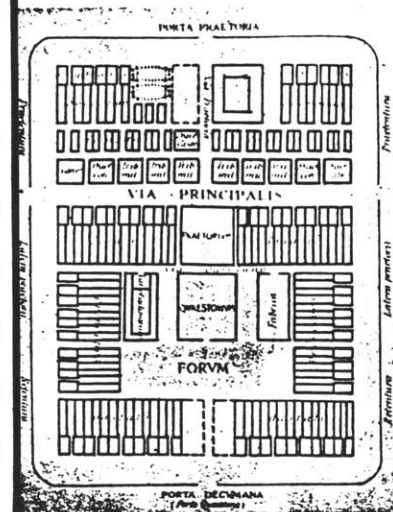
End of the alignments of Kermario (Brittany-France).

extension of space").

Although this difference should be verified, it seems that Carnac's alignments are defined and limited whereas North American urban structures are defined to be unlimited. To the contrary of the latter, the projects of Roman cities were limited inside walls to 50000 inhabitants, both limitations being predefined. Although the cities were limited, their potential reproduction along cardus and decumanus permits to say how the roman landscape structure might have generated North-American structure. Carnac's alignments, as we know [Zacharie Le Rouzic et M et Mme Saint-Just Pequart, "Carnac," Berger-Levrault, Strasbourg, 1923. Denis Roche, "Carnac," Tchou, Paris, 1969], are material interpretations of a spiritual world. The path through it was ceremonial, and its scope, the expression of spirit. It did not build a rationality that an atheist could understand. Like a cathedral, it raises, with the line, man to a level of intellectual concerns.



Carnac: alignments of Menec.



C.-TRIBAL ORGANIZATION.

Wherein we indicate that line may not be necessary to man in terms of social organization.

If we conceive of a street both as a locus of social interaction and a linear passageway linking destination, then the street does not appear to exist at the simplest levels of human society. We can identify paths leading out of a village into the surroundings; and we can find ritual ways, lanes reserved for menstruating women, and even tracks connecting a settlement. But the street with boundaries that separate interior from exterior, private from public space does not exist in hunting and gathering societies. The compound or encampment or village itself, which seems to function as a "field of interaction," [Rapoport, House Form and Culture] is not defined as a series of destinations in a linear system. This lack of street seems to correlate well with a similar nonlinear interpretation of time (see "Time and the watch").

Nomadic and seminomadic tribes often

inhabit circular villages. Their settlements tend to be temporary, made of natural materials, portable, and, while clearly distinguishable, an integral part of the surroundings. The absence of the street in circular villages appears to reflect no strongly felt need for boundaries between public and private behavior (even though Levi-Strauss manipulated Bororo villages to prove, to some extent, the contrary). Unity, interdependence, and cooperation were the rule; and the unit of cooperation is the coresident band --not the nuclear family [Lee and De Vore, *Man The Hunter*; Claude Levi Strauss, *The Elementary Structures of Kinship*, Boston, Beacon Press, 1969]

In such a society, architecture is carrying a mechanism of communication and can be utilized to inform the entire group of the state of interpersonal relationships and to set into motion the system of sanctions by which the order is maintained. For example, "among the Mbuti, a woman may orient her hut door to express liking, indifference, or dislike for a neighbour." [Gloria Levitas, *Anthropology and Sociology of Streets in*

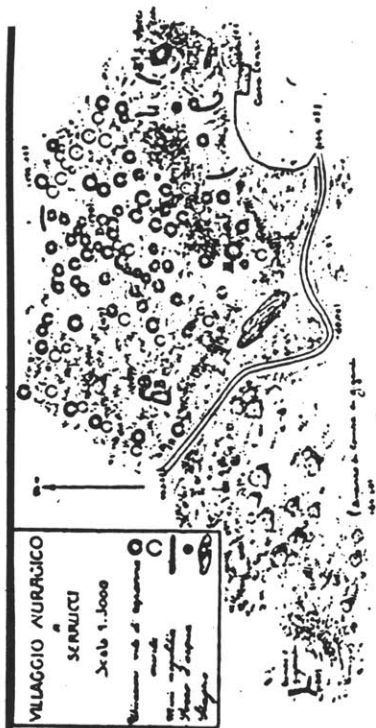
On street, MIT Press, 1978]

The circular settlement in Sardinia and the Truli in Puglia, and the Indian villages in Brazil exhibit other forms of spatial choices contiguous to some forms of social organization not ruled by linearity.

Again, the basic unit of adaptation appears to be the compound itself, with no existence of linear streets.

Generally, husbands and wives live in separate huts which are arranged in a rough circle within which most of the work of the compound is conducted. Depending upon the specific elements of

the social structure, a man and his wives' huts may be clustered separately from those of his brothers, and occasionally the houses of husbands and wives may be connected by a covered passageway. Among the Massa, all the men's huts may be on one side of the circle while all the wives'huts may be on the other side [Paul Oliver, Shelter and Society, NY Praeger, 1969]. A large compound may take in several families, a lineage, segment of a lineage, moiety, or



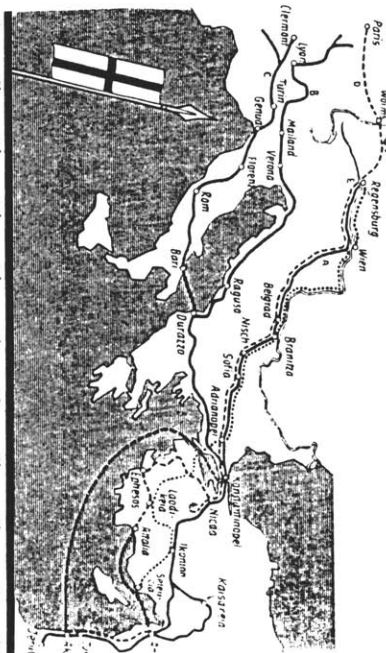
Planimetry of the Nuraghe village in Sardegna.

even a clan. But what is most striking about these settlements is the public nature of life within them. Although smaller units of cooperation exist, and the household may function as a unit of production, the critical need for a large cooperative group demands public food storage shared by all occupants of the compound. While the circular village may have a headman or men's club house, even the granaries of the headman are not private. For "in severe shortage, what food is held openly must be shared equally by all within a compound." [see 18] "As long as a village remains circular in form one can generally infer that it is egalitarian both politically and economically, and that privacy --like private property-- will be little in evidence" [Gloria Levitas, *Anthropology and Sociology of Streets in On street*, MIT Press, 1978]. The beginnings of a concept of private family life may be seen in the use of a covered passageway (a private street) linking a man and his wives, but by and large the concept of family boundaries is little developed.

D.-OPPORTUNITY TO NODES.

Wherein we understand that line is a factor of separation, a means of distribution, and, as such, a tool for power. Line is possibly a necessary consequence of the increase of population.

The village of rectangular houses presents a very different picture: In the Middle East where this form first appears, the houses seem to be designed to accomodate families rather than individuals. Although there may be a headman's granary, each household has its own concealed, interior storage facilities, and the implication of these findings is that the individual household, rather than the compound or village, has now become the basic unit of production. Further more, it appears that since the household storage units are hidden from public view, the cultural imperative for sharing beyond the household itself either has considerably weakened or no longer exists. "While disparities of wealth among members of a circular compound are virtually non-



The first three Crusads reached the holy land by landroads.

Most of the journeys were accomplished on the old roman roads. Roads were the only way to spiritual conquest.

existent, the opportunities for accumulation of resources within the family seem to be present in the rectangular house." [Gloria Levitas, *Anthropology and Sociology of Streets in "On Street"*, MIT Press, 1978]. Streets are very much in evidence in the rectangular village and function as the link between discrete, bounded units. But much of the activity that took place in circular villages in the public communal center now takes place within the privacy of the household court.

This does not mean that there is no relationship within the social infrastructure of the settlement. Actually, due to common activities, the population shared by intermittence what Emile Durkheim called "mechanical solidarity" [Emile Durkheim, *"The Division of Labor in Society"*, NY Free Press, 1933].

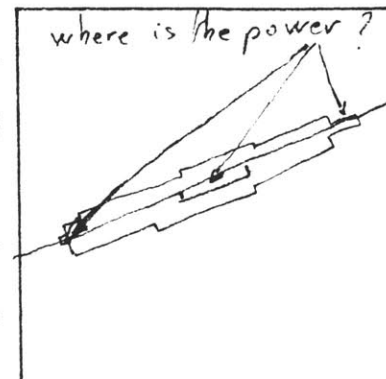
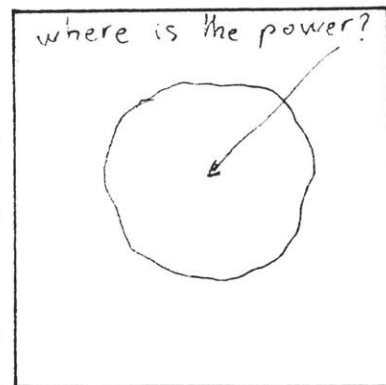
In both the rectangular house village of the Middle East and the linear maritime village we see the emergence of a change in the nature of human relationships which in turns depends upon technological

ability and habitat. Both villages emphasize the family as the basic unit of production, and both have begun to grant privacy to the family.

The linear village, often found strung alongside roads and river banks, emerged because access to the road or water coerces the form. Actually, these villages are organized in parallel or perpendicular to the topological generator. In a circle all positions have equal access to the center of information of the social group. Studies of communication mentioned by Gloria Levitas and a certain sense of spatial distribution would propose that circular forms are egalitarian, and provide a sense of satisfaction for all participants, being, however, less efficient in performing tasks requiring numerous divisions.

The street should not be arranged for this reason in a simple category of social separation.

Where a moiety system dominates, for example, members of each half may be arranged on opposite sides of the street.



In this case, the street is effectively a spatial symbol of separation of the moieties. It has been built by the inhabitants themselves, and this agreement itself is the proof of a superior unity frequently indicated by some focus included at its center or at its end, such as the chief's hut, village shrine or temple, communal granary, or men's club.

The street may express organization of groups, subclans or lineage segments for whom it is the place of interpersonal interactions, generally confirmed in a particular segment of the street; this behavior, noted in the first rectangular villages in Mexico and in the Near East, is observed in our contemporary societies, in New York, or Penang; in these last personal observations, I noted that there were always physical stimuli on which people aggregate such as a hydrant giving water or the sole tree on the street. In a wider and more complex way, these societies function as cooperative work groups and ceremonial organizations, cutting across nuclear

families and lineages to provide another source of activity.

The emergence of the street, then, seems to symbolize or express a gradual awareness of the separation of private and public, family and larger community. Competition and intensification of production rather than cooperation and stability of production emerge with the street.

In the evolution of the Western settlement in this last millenium, the communitarian structure is shifting progressively from the notion of place and linear aggregation of place [see the un-published study of Paolo Portoghesi on the "slarghi" di Roma, a study that shows how the facades whose reciprocal angles with the axis of the street create a series of places to a complete and simplified and anonymous linear distribution].

As long as it seems that a line is a division of society, it raises the issue of the master of this formal model. Regarding segments, like Main Street, the door and the City Hall are the



San Miniato. the nature of the landscape in the direction East-West, obliged the city forms to be aggregated in a linear development.

suggestions of power as they control the entrance and control the meeting.

The birth of the line in the community generates power in such a way that society is regulated and directed.

E.-TRANSMUTATION.

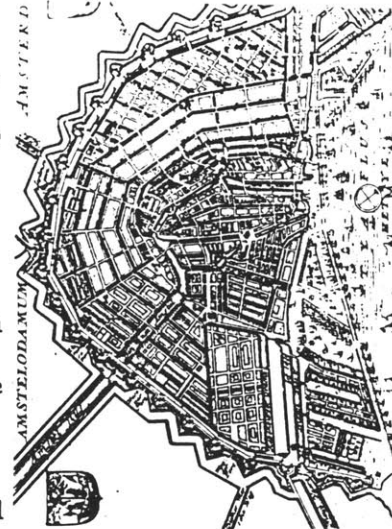
Wherein we note the historical transformation of the line from form to space of communication.

The transformation of linearity through time, crystalizes the evolution of the wall of the city.

The presence of the city wall symbolized and supported the presence of a cooperative unit, operating essentially through a system of interwoven kin, work and religious networks.

Within this (walled) city, activity was both public and social, and economic activities were still embedded in the households; trade and social life were conducted together. In the medieval city, developing specialization in craft was as much apparent by specialized streets as by the presence of the guild hall. The church and state grappled for control over the emerging cities and indicated this tension in the spatial implementation.

At that time, the street defined stability, but soon became a unique



Amsterdam walled.

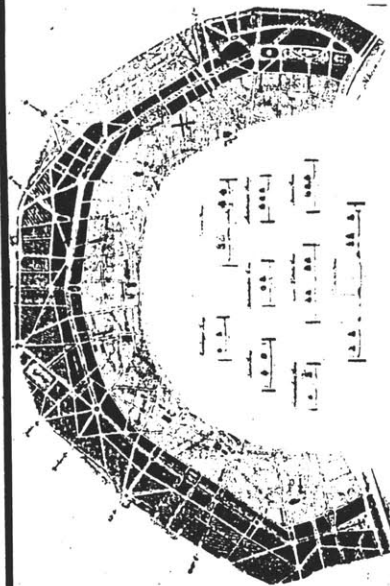


Strasbourg walled.

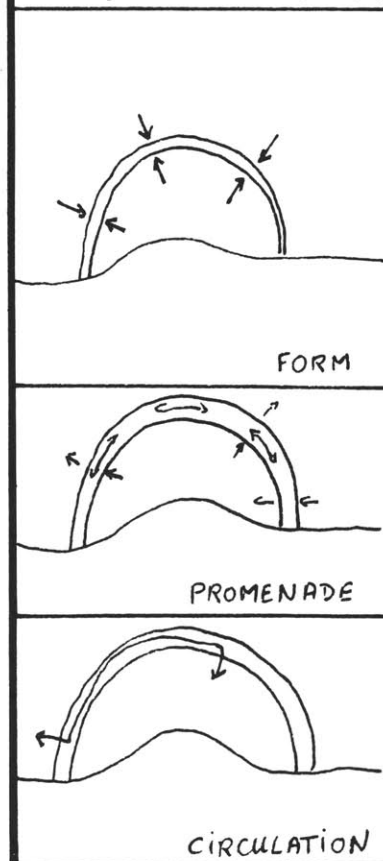


Bern walled.

vector of dynamism and specialization. The evolution of the wall of the city marks this evolution in the same way. Il muro Aureliano in Rome is at the same time a defensive form and an aqueduct. It is statism and movement, whereas initially the walls of the city were only an envelope for the city. Actually for several European cities, we can clearly see how the wall is a potential medium of communication. The Ring of Vienna is an exemplary transformation of the wall in which we could determine two components, one of which has two essential orientations. The line was viewed as a protective element against the world (see scheme) and became a drag for communication. The variant of the second stage is the wall as a park. Taking apart, this variant, to which belongs the Ring, the line became a place for circulation, that is to say a metaphor for non-space, a place where nobody stays, an absence of statism, a non-place.



The Ring of Vienna. All these cities' walls became an opportunity to peripheral development and transit circulation.



F.- HUNGRY FOR CONTROL.

Wherein we illustrate the Baroque expression of line as order and control.

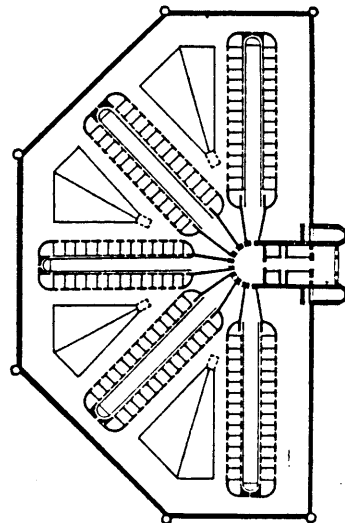
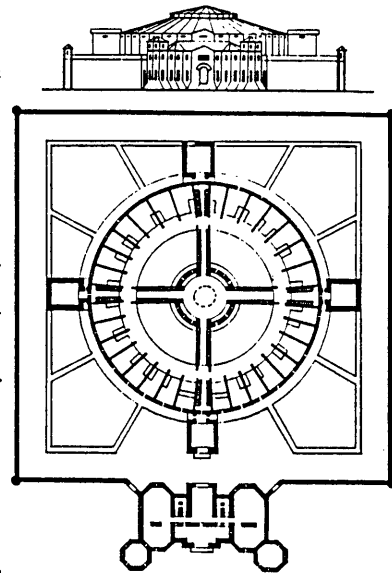
People, from a geopolitical power's point of view, are disposed to some sort of centralization, some nodes that center the line.

The same population, for an equal area, in a closed centrifuge figure is more difficult to control than a population whose linear housing is controlled at the middle and at the two ends of the street. Each focus, each alteration to the line suggests a possibility of control.

Nodes appears as power and control.

The structure of the prisons relates the best physical example, in which there is no way to escape.

The analogy between streets and prison is made more convincing by watching televised information that dramatically shows the prisoners hanging mirrors outside their grids. Their scope is to see outside, as is the scope of the bow-window of Back Bay. Although this analogy is provocative, it can be admitted without other presumptions.



The prison of Philadelphia and Lamberton.

Order and observation allowed by the straight line, --line of vision-- makes the linear model a component of their circular composition.

The control, thus the power, never concentrates along the line, but more effectively at its interruption such as in the Rome of Sixtus V, in the Paris of Haussmann, in the medieval town of Italy. We should perceive this type of linearity as a transitory solution from the non-linear spatial structure towards a vision of the entire world as a unit of rational systematic communication.

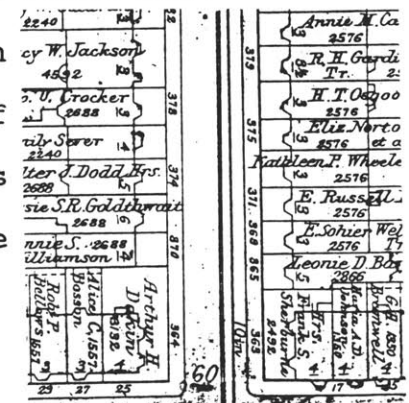
The 18th century Parisian interventions of Haussman, in line with his predecessors, Rambuteau and Bonaparte, are conceived on the basis of rational arguments. Among these are the sanitization of "fresh air" --more than

1000 trees, the creation of the Bois de Vincennes-- of the water supply (310 miles), of public gas in the street, of the efficacy of movement --not so much in military terms, but in terms of CONTROL of public movement, the 15 bus companies being unified in the sole Compagnie Generale.

Zola in "Les scenes de la rue de Paris" will later describe about the Paris of Haussmann that it is "disemboweled and



Rome in 1748. The 15th century intervention of Sixto V, Leone X and Paolo III.



Back Bay: Newbury street. New order of Boston conceived by Olmsted.

bleeding as the prey of speculation, the victim of all-consuming greed (in Paris-Guide p.194) adding, still later, in Rougeon Macquart, that this economic speculation is "making the money dance (...) giving the laboring classes no time to think." In the Paris Guide, the Rue de Rivoli was seen as a symbol of the new world --long, wide, and cold: "The street no longer exists in Paris, and the street once dead, is the reign of the boulevard and advent of the grand arteries (in Paris Guide p.924).



Paris: Haussmann interventions (in black).

In the XVIII century, people feared the street. In reaction, the utopians of this period created imaginary cities whose "gallery streets are a means of internal communication which will be enough to put to shame all the palaces and fine towns of civilization" [text written by Fourier between 1803 and 1808, "les manuscrits"]. The phenomenon of social condensation interested him more than commercial values. "In the Phalanstere as in the Palais Royal, the gallery street would act as a binding agent."



Orio Litta: Villa Somaggi built by Marc'Antonio dal Re. The order is essentially scenographic.

The Passage du Caire was created in 1799. It transforms and comforts the society that created it. The overproduction caused by technological advances made it imperative for the manufacturers of luxury goods to discover new methods of distribution, faster turnover and easier promotion. The success of the arcade resulted from the combination of two factors: a supply of goods in department store variety and a supply of public space for undisturbed promenading, window shopping and display of merchandise.

On one hand, the show window defines the retail store in its simple form: the product is protected from the weather and can be viewed through the window after the shop has closed. Fixed prices replace bargaining. A variety of goods replaces individual production and competition replaces mutual support. On the other hand, the routes --galleries and passages-- [in Bentham and Ledoux quoted by Antony Vidler, *The Scenes of the Street Transformations in Ideal and Reality: 1750-1871* in "On Street"] were solely a means of fast communication or

aids to more perfect observation. Trapped in a cylindrical void or in wedge-shaped cells, the inspector and the inmates were denied all connections, save that of vision; social space for its own sake has been rendered non-existent.

On another scale, the plans of the works of Henri St Simon such as the railroad from Paris to Marseilles or the general distribution of water in Paris or the piercing of the street from Le Louvre to La Bastille announce the interventions of Haussmann.

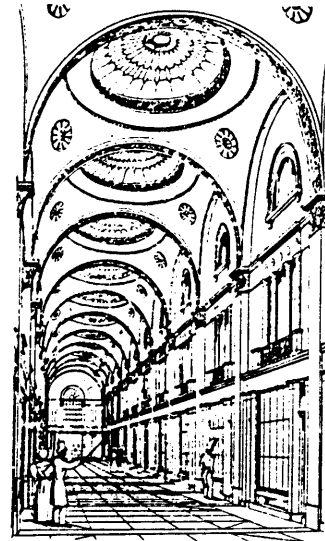
At a time in which the street lost its community control and began to be a place of fear and transit in a divided society, the galleries and the Haussmannian lines of force reveal a means of control and calculation of power. The straight line is proven to be a place of control in the words of Victor Considerant [Victor Considerant, "Considerations Sociales"] "Just as the cross determines the form of medieval cathedrals and churches (spiritual control and consensus), so the series or row determines the form of the

dwelling and factories of the phalanx.

They are, however, also linear extensions of the meeting place, of squares; they are also "passegiate."

So, at the beginning of its development, the arcade was an object of private speculation, an imitation of the Palais Royal; in the Passage Choiseul, the model was the early Christian Basilica; in Burlington it was the Exchange [Johann Friedrich Geist, "Arcades, The History of a Building Type", MIT Press, 1983]. Then it became the symbol of cultural progress, the showpiece of newly established nations, like Italy and Germany, which were seeking recognition.

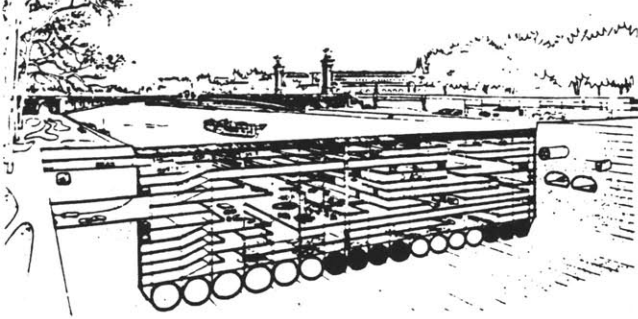
They appear to be a sort of cultural control: the arcades, as seen above for the Haussmannian interventions, were urban models for visions of a prestigious future in which the street is controlled. This promenade allows people to walk without fear.



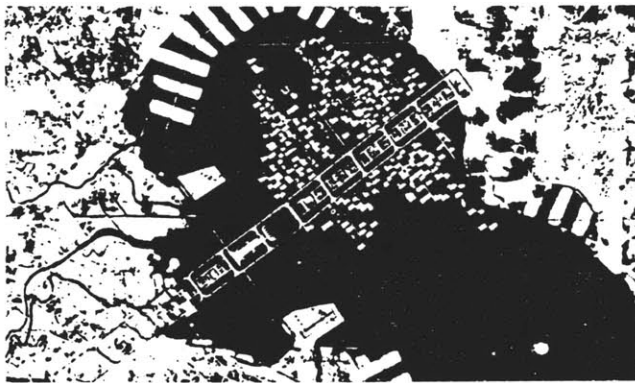
Lowther Arcade, London, 1830-31. One of the earliest London arcades, 245 feet long, 20 feet wide, 35 feet high. Although based on the bazaar model, it has almost the same connotations as the Boulevard Haussmann: cleanliness, order and control.

G.-DREAM (NIGHTMARE).

Wherein line is a tool for colonization
and replication.



Yoan Friedman, 1958.



Kenzo Tange: Plan of
the bay of Tokyo,
1960.



Edgar Chambless:
Roadtown, 1910.



Tramway for Berlin.
Conquest of the
street by la
nouvelle
bourgeoisie
(19th.c).



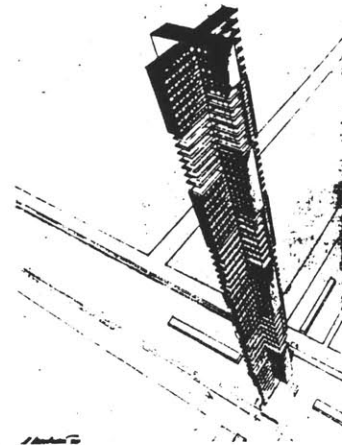
The title of
Hafraba-guides in
1929 (Germany):
The strength of
labor identified
with lines passing
through the country.

The intention is not only the symbolic generator of order, for the sake of progress, but, through the means of a line, to express one's new power on the bigger area of the city.

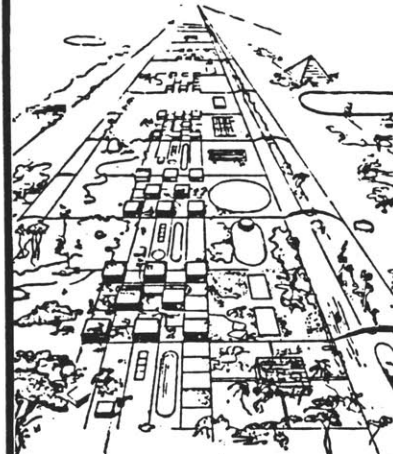
We can distinguish two formal ways in linearity to confront the urban space with a new project: either vertically, as with the skyscraper, or horizontally, through lanes in the city. The first one is only visual for most of the population, whereas the second one is a constant physical presence in the territory of the neighborhood.

This line passing through the city remains therefore, whatever its economic occurrence is, the more direct and the simplest way to show and demonstrate to the city the presence of one's urban project of society; much more than the erection of one skyscraper (one is a public intervention, the other a private one).

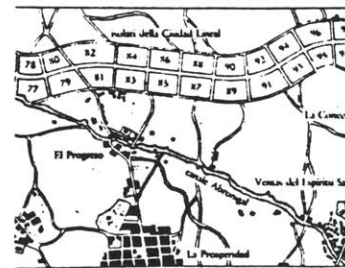
The linear urban project is then considered as a factor of prosperity: it drags down everything and becomes an



N. Ladowski.
Project in Santo Domingo, 1929.



JJ. Leonidov and group OSA:
Magnitogorsk, 1929.



The linear city of Soria y Mata, 1899.

exchanger, it becomes the speed, where everything is possible: the dream to go fast is the dream to be everywhere, to have the power of ubiquity.



Thus, the spectrum of lines becomes, in the words of Samuel Florman, civil engineer, a "diagram for prayer" [in Culture and Technology, Arnold Pacey, MIT Press].

H. Gonzales del Castillo: Belgian linear city, 1919.

The rectilinear track is therefore a form of colonization.

H.- THIRST FOR INDIFFERENCE.

Wherein man uses lines to express his aspiration for the infinite and absolute.

Lines are not any more simply connections between points, but an undifferentiated space support to travel.

Let's imagine now a gridiron city whose nodes are nothing other than points allowing a choice of path. The lines that structure it are arranged as in a supermarket, where you forget that you have to pay. It is, actually, the presence of the quantity of merchandise that obliges an extensible linear structure. If it were not linear, we would have the possibility of the creation of a city like Fathepour Sikri, an image of a finite space, even though it could be extended.

There is, thus, a will that determines a gridiron city that interprets our existence in space.

The nodes are communicative places, for instance in the diagrams of L'Enfant and the structure of MIT. In the latter example, the lobbies are potential places



of control but the space that would traditionally be a place related to socio-political power are empty spaces contiguous to nothing else than stairs and elevators apart from the library in building 10. This last case is interesting because the real power seems now to be the sole idea of movement.

The result is an amalgam of thematic variations along strong linear codes. The linear structure is massive by essence, because it is potentially infinite.

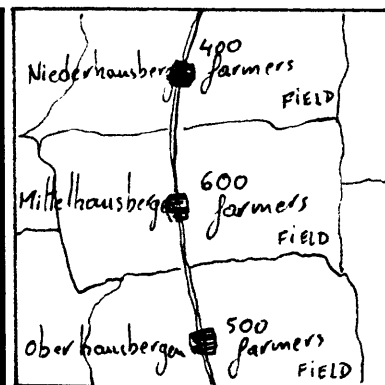
In both cases, the street and the supermarket, the character of the alignment is to make a great collection, the locus of analogous things.

In both cases, the alignment is a form of autocontrol of these analogous things in relationship to the space that can be covered.

Both are the expression of the infinite consumption of space and things, that can be approached like the alignment of Carnac: they are the exhibition of a myth.

Man, here again, tries to represent the infinite, to show how powerful he is. That is probably why the nodes do not have any more importance. Just as in Carnac, there are no existing nodes, in Hampshire Street, in Cambridge, the cross-roads are only crossroads. That is to say an opportunity to change lines. The notion of scale disappears in the infinite, because these opportunities are barely marked in the space by signs other than the indicators of direction.

One might suggest that this is more the result of the importance of the population than a mythical and concurrent interpretation of the universe. Of course, a village of 500 inhabitants would not need a systematic linear organization; this is a mistake easily detectable through a few examples of villages that are strictly organized along the street. They express clearly that they are the result of external pressure and external presence usually of a superior order like commerce or spirituality as in the religious pilgrimages.

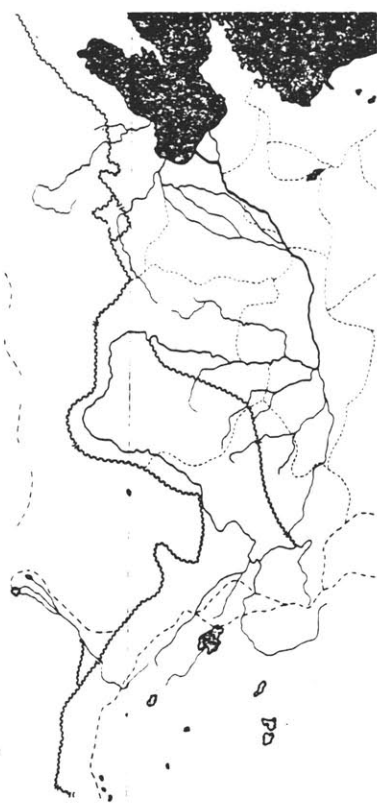


The nodes are circumstanciated by the utilisation of the land.

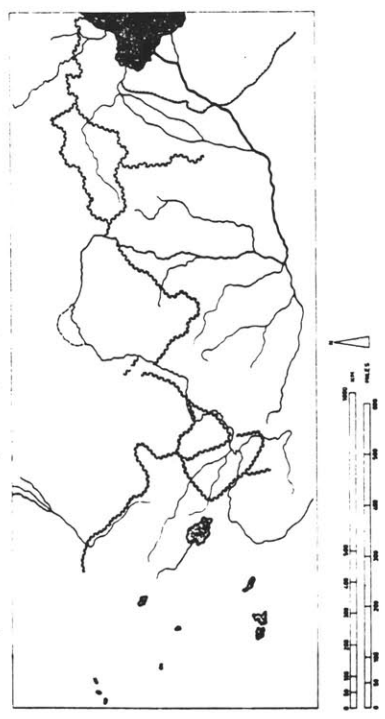
However, in the field of social and spatial recognition, there is absolutely no need to structure a small scale space with lines, whereas a large scale area is easily structured within linear geometry. Taking the case of Los Angeles, one might feel the overlap of two basic structures: on one hand, the puddles of neighbourhood distributed in the region with indefinite contours, on the other hand, an informal grid of highway that might almost exist for itself. Each one of these solutions, here exceptionally mixed, concretizes the research of references for the control and the security of the individuals in front of a population impossible to know (in a way, the space transcribes this anxiety).

It is then through methods of classification that man knows how he is in relationship to space and society. In short, large fields need breaking up into smaller divisions; loosely connected fields suggest consolidation.

The case of French villages shows how only one line at first was a means to

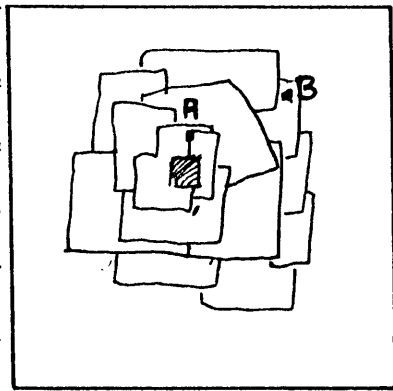


Great Wall of China.
 1) Han Period, 206 B.C.
 2) Ming Period, 1368-1644.

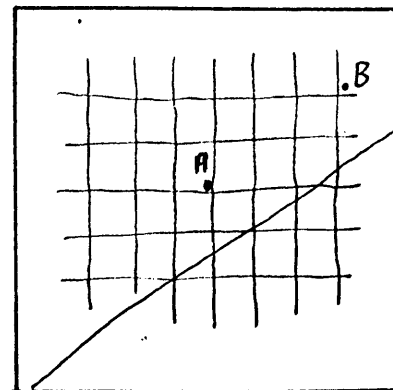


divide the space in two (as seen later in "geometry"), and that later two lines were added; they are smaller. We could say that an increment of these villages gives a gridiron pattern eventhough it is not true for the same village, but for new villages. As such, of course, a line is only participating in the division of space.

The choice of linearity as a method of division is not ingenuous. The opportunity of the line is its possible infinite extension. Western countries want to signify the improvement of their space as extensible spaces for the infinite. Similarly, their economic growth refutes at the same time other types of recognition and extension, like the character of aggregation, whose components, moreover, risk in varying so much at the measure of the renewal in a rapid evolution that would not mark the continuity of the infinite. In the now accepted loss of social consensus, it would be more and more delicate to trust oneself in this type of constant spatial



Communications between A and B are difficult.



Communications between A and B are very clear.

invention that would not have definitive constraints and rules.

The hypothesis of the necessity of a linear organization as a measure of the population remains to be submitted to tests.

By briefly considering the functions of movement (in the case of the street, of people, ideas, goods) and access (to goals either in or abutting the street), one can trace three aspects of the changed role of the street.

Initially, for certain ranges of communication, these functions have been satisfied by other linear systems: the postal , telephone, or subway system. Whereas the extensions of man's linguistic powers (transcription and transmission) function now chiefly without demanding his presence in the street, the extension of his locomotive power (transportation) has taken place essentially by superimposing itself on

the street. Thus, while the street is a necessary place of movement from one part of the city to another, it is still possible to converse with a neighbour, to perceive or receive news through radio and television, therefore to be entertained, or, finally, to shop without leaving home. This might say that those artifacts created to support linguistic extensions bypass the street in the same manner as the communications themselves do. In reality, the street itself is the support of most of them. The telephone and telegraph cables, the transportation of mail, newspapers and magazines, the piping of water, gas and electricity pass through the subsoil of the public street, so that whereas it has become possible to communicate on a linguistic level over great distances with no reference to street pattern, the communication artifacts that support this capability for short distances, as well as those that extend man's range of mobility, are largely bound to the subsurface of the street.

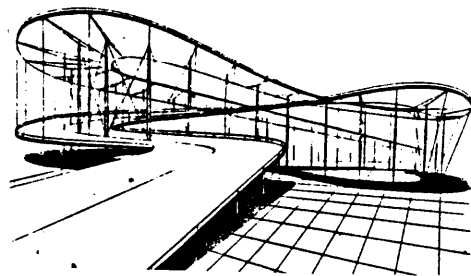
Secondly, "it can be seen that a reliance on a mechanically-aided mode of communication, such as the automobile, greatly expands the range of movement and access such as pedestrian movement" generating as a result environmental incompatibilities." [Czarnowski, The street as a Communications Artifact "on Streets"]

Thirdly, lines become a support to almost all the matters used in our lives. Their configurations depend on scale, type and architecture as well as on functions in such a way that they can offer new morphologies. These morphologies may increase the complexity of governing the street. But this complexity relates essentially to a number of different, but simple things, such as a car, a wire, whereas it simplifies its global utilization by man... For instance, the pedestrian may only be considered as a client for merchandise; at the same time, the exceptional quality of the street, which promotes sitting, or, not doing anything, aspiring to a quiet space may barely be taken into consideration.

The street thus, becomes poorer in spite of this new complexity. This pauperism due to mass production and mass divulgation of information/behaviour cannot take into account the expression of the personal and rich behaviour of the individual.

These three events, the replacement of the street as a system of access and movement by other channels of communication, the alteration of the street by the superimposition of modes of communication requiring varying scales of operation, and the development of configurations of streets that rely on mechanized movement and form greatly distend regional patterns and constitute a metamorphosis and a narrowing of the role of the street as a locus of communication.

M.Masmanjan.
Park for the future
in Moscow, 1929.
Paradigm of the
linear track's
indifference.



I.-VELOCITY.

Wherein line is the propagation of prestige, power and a vision of the future.

Although it seems clear now that the existence of a linear system is mainly symbolic, the official reason for its implementation remains an economic one.

Glenn D. Westley in "Planning the Location of Urban Suburban Rail Lines" [Ballinger, Cambridge, 1928] determined the path of rapid transit with equations in which the users seem important factors of decision. Actually the implicit content of such equations assume that

- 1) the further the centroids are, the less important they are (which is a characteristic of the gravity model);
- 2) the longer the travel is, the less likely you are to do it;
- 3) the city has to be distributed in corridors.

In fact, the USERS are distributed on a bidimensional space, and their location filtered through models that determine the optimal path.

We can already see that the individuals are not considered in the implementation of such transportation. This is essentially due to the fact that subway transportation has to be, by hypothesis a mass transportation, the line being now the concentration of the rapidity.

The insertion of time in the concept of transportation reveals the disconsideration of the individual. The San Francisco Bay Area Rapid Transit designers thought that "the interurban traveler, facing the choice between using his private automobile or using mass transportation, will be influenced in his choice more by the speed and frequency of interurban transit service than by the distance he must travel in his own car or by local transit to reach the nearest rapid transit station (Sokes B.R. Urban Railways and Rapid Transit, IPC TPL.Hope, 1972)." Whereas we have known for more

than twenty years now, (also explicitly described by Abraham Moles in *Micropsychologie et vie quotidienne*) that the "time spent inside vehicles is judged to be far less onerous than the time spent walking, waiting and transferring, by a factor up to 3 or 4 times."

When designing the tramway of Strasbourg, the engineers applied their concept of efficiency. It says that, to be efficient, the stations have to be distributed every 250 meters. One of these stations, Cronenbourg, happened to be between a cemetery and a highway, whereas if it were at 150 meters instead, it would have been on the border of a very urban and dense neighbourhood. When I proposed the shift of the station, engineers told me clearly that they were working for the transportation system, not for the users.

A third example, argued by Jonathan Richmond for the project of BART, is that "studies relative to BART were practiced in terms of validation in which none of

the viable bus alternatives have been considered, leading to a behaviour in which the bus network has been modified to feed the LRT and not designed for people's trips."

These three examples diffuse the impression that a linear distribution through cities like San Francisco or Strabourg are submitted to reasons other than economic ones.

* One remains paradoxically economic, but within the context of an "overall macroproduction target and an overall income multiplier." It feeds economic growth and generates economic growth. In this sense, it is a vision of the future in which line as movement is just contiguous to economic growth.

* It is a symbol of progress in the words of B.R. Stokes, BART manager, ["Urban Railways and Rapid Transit," Chapter "BART and the community," IPC Transport, Press Limited, Hope, 1972] reveals how much the system is desired. He evokes high technology and the future: "[...] with face lifting plans for these

prestigious thoroughfares [...]. Berkeley [...] was a scene of purposeful confusion. [...]. Built by the Rohr corporation, basically an aerospace concern, BART trains are among the most advanced in the world." The prestige, the order and the ambition to be the first ("catalyst in sociological change" "development tool") justifies the employed means. If there is no double-checking in the analysis, as for a simple statistical test, it is because the responsible individuals do not want to hear something else than the results they want.

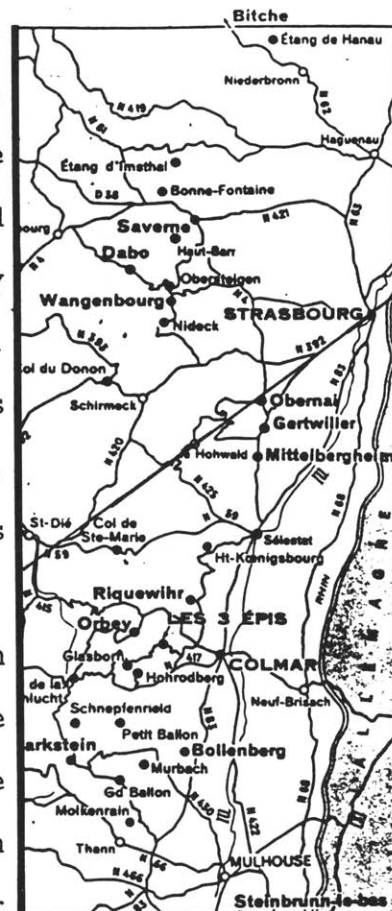
* Another reason for which economic factors are minimized when considering the decision of building a line is when the connotation of this line is innovation. We tend to value creativity and it is not in our nature to place limits on it. We tend to feel that the innovative impulse should never be burdened with too much political restriction or economic parsimony.

Obviously a line here is part of a complex system, and this text does not intend to propose that a network composed of lines makes a line a unique factor of decision.

However, in the cases above, we have seen that lines as movement imposes a certain level of seduction. They are a support for prestige and innovation.

The Space Program participates in the same concept. We could argue that, here again, travel is a source of prestige and innovation. For the Statue of Liberty, the Centre George Pompidou, the memorial to the Vietnam War in Washington DC are monuments, sources of prestige and innovation, and they do not use linearity at all. Linearity is an efficient tool and factor of prestige because of its intrinsic idea of movement, and thus, propagates easily the prestigious intervention in the environment.

Where castles, temples, cathedrals (in the case of illustration) and towers are placed in such a way that they can be viewed, they are using lines of vision as a factor of propagation of their



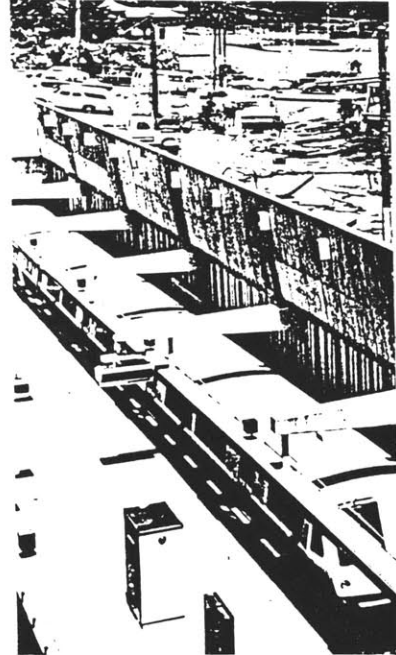
meaning which is usually power, whether spiritual or cultural. In the plain, for instance, a castle and a cathedral generate roads, using line as a tool of design.

The physical means to show its presence in the city follows the same principle: to be everywhere means either being higher than the others (as in San Gimignano), or propagating in urban corridors as for a highway, and the subway, that everybody would be obliged to take.

In the creation of our lines in the desert, we are participating in two essential concepts:

1) We built a collective super-monument, which interprets the city less as a common place for individuals, but as links between them, links whose criteria is celerity.

Line is a human construct for its own sake: to transport.



Velocity raised as a monument.

2) We say clearly that our future is inserted in transportation as a place of RAPID DISTRIBUTIONS. Actually, what is the transportation for? The purpose of transportation is "to bring people or goods to places where they are needed (DIFFUSION), and to concentrate the greatest variety of goods and people within a limited area (CONCENTRATION), in order to widen the possibility of choice without making it necessary to travel." (Lewis Mumford in The Highway and the City) A good transportation system minimizes unnecessary transportation; and in any event, it offers a change of speed and mode to fit a diversity of human purposes.



The geopolitical, topographical, power expressed in this view seems however a transitory concept in front of the evolution of the systematic generalisation of linear vectors. We will analyze now how this generalization stimulates a world of chronopolitical power.

The argument proceeds from the essence of the communication itself: SPEED.

We immediatly evoke the fact that the more important speed is, straighter is the line. And we then have to distinguish clearly the straight line from the others (see "geometry")

The original reasoning of climbing on a mount to be transported suggests an economy of human energy. We save the discomfort of a long pedestrian travel with the help of the speed of the movement. The ideal of travel originates in the combination of two goals: the constant research of an ideal weightlessness, and of an infinite velocity. Whether one or the other detaches the traveller from the physical territory and, thanks to the vehicle, gives access to one of the first forms of relativity. The traveller is a prisoner of his mount, in its DRIVING or in its WAITING. The kidnapping and the carrying off are in the heart of the accelerated travel (by metaphoric opposition to the pace of the walker whose act of going fast remains grounded on earth). The mount is an exchanger (also mentioned in the cabalistic tradition) whereas the

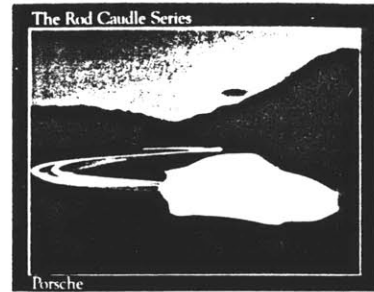
landing charge is an upsetting of the equilibrium, a rupture.

In driving, the traveller undertakes an activity stimulated by speed. But at the same time, he is the object of the mechanism he is directing. The mount, horse or vehicle, codifies his behaviour by teaching him what he has to do to advance, to accelerate, to turn. This codification is more obvious in stimulators such as video-disk games that extract windows from the edges of the image, blow them up and put them laterally, so to give an impression of velocity due to the fact that the sense of speed is controlled by the periphery of vision (Note that our cars could have prismatic windows which could produce a decoupled impression of speed, so as to slacken the pace of the vehicle). In these games, the driver learns to synthesize the parameters to speed up to his maximum. The game is to remain between the two limits of speed fixed by himself or by law (as it is in part of United States). The driver and the mount are united for the same purpose. Of

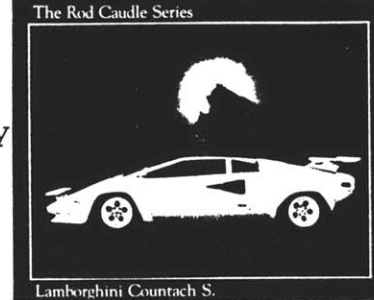
course, this is also the pattern of any manipulation of instrument. But here, once the journey begins, the traveller is totally involved in it, and he cannot leave immediately his mount. There he is trapped.

In the traveller's waiting speed one can identify a prematured ageing: the accelerated movement makes time go quicker and the environment erases its old signification. The displacement is abstract, closed in on itself. Because it does not have other physical references than itself, it is a production of fear. When looking at the extreme velocity of the space shuttle or the successive winners of maximum speed, this is more obvious. The mount originates its existence between two places. But as the territorial space disappears, the sole Time remains, such as in the cult of the horary pertaining to the railroad developed at the dawn of the railroad. The route is not a route of communication, but the concentration camp of the velocity, (as determined earlier) clearly symbolized in the successive

competition of speed on Salt Lake. It plans time and not space. The road's straightness makes new the history of celerity, the rectitude of the line (?the axis?) is the fossil of the violence, one of the bullets in the boulevard or of the armour plated on the Reich-Autobahn. Bodies dissappear in the unidirectionality of the speed. The metonymie of this phenomenon is written on the snow by the repeated and uniform marks of the tires. Time is also in the parking-meter's metonymie of the temporary passage of the vehicle that can not stay in the same place for more than ten minutes without penalization.



Porsche
#005 Porsche 22x28



Lamborghini
#004 Lamborghini 22x28



Ferrari
#009 Ferrari 22x28

The Atlanta Gallery of Automoti

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J.- CONCENTRATION, VIOLENCE.

Wherein line annihilates the notion of space.

The general mobilization is the ultimate form of this disguise: the marks of the railroad and of the speedway are like the marks of camouflage on the "facade" of a building, they dissimulate the unity for conformity. Defaced Western countries now have faces of a body excessively equipped, outrageously made-up by their means of communication, from aerial cables to jets' condensation contrails covering the azured fieldsweep, before erasing its color. Through the representation of this equipment, we increasingly lose the direct view of the physical world... the map instead of the territory, the statistic instead of facts.

Given the possibility of traversing a region at a steady sixty-five miles an hour, it is said that anyone with a car can, within sixty minutes, make contact with millions of jobs and umpteen friends, shops, cinemas, etc... The factor that this statement omits is time.

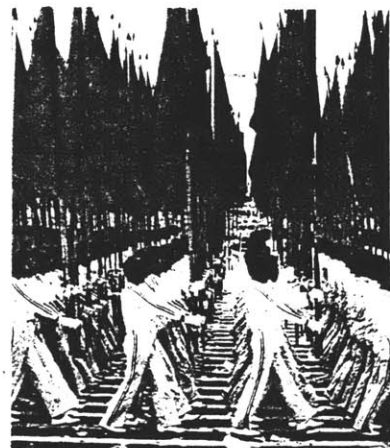
Regional man has less time to spend at his destinations. In compensation the means of locomotion are used as destination, the street is essentially made for parking lots, the typical trajectory conducts from it to another place of exchange like the shopping center (at best) or to the subway station. The population is going "where the action is", as generally stated; the population does not stay anymore to interact.

The conductor becomes the semi-conductor of an abstract process. For the captain, the shoot devices U-boat commanding officer, there is no other memory than the fire-control officer; the magnetic tape concentrates by its unrolling the trajectory of the missile to its target, like the Roman road concentrates the power of the Empire in the movement of its legions, in the tubes leading to its conquered territory (as already said, the road is a form of colonization).

(By proxy, the walkman creates this linear (and here we could say monosemic)

space by its status quo: it restores the homogeneity of places, decreases the disparity , the intensity of differentiated feelings, through the constant broadcasting of the same rhythm, if not the same music. It is not a project of violence, but a project of absence, and represents a relentless auditive continuity with an affinity to the continuous street's "white noise.") This indifferentiation is spread in the skyscraper and the street: the skyscraper's external texture is the repetition of a simple frame almost ad infinitum, as well as the street's texture in its prevalent repetition of the undifferentiated cars that are now building the street already new, clean by opposition to the dirty, immobile pavement and edifices in background; cars are ready to invade every parcel of the streets' territory in a totally permanent new form of renewal.

Rolled up on its drum or unrolled in the plain, this line symbolizes the infinite because it is always similar to itself. Governed by order, it forms a first



military glacis, and, as such, is a project of fire power violence, but a strange violence not sanctioned where the movement is every thing and the goal without any value. As for the courtesan, its success is nothing, only the pursuit is important, its seduction provokes the departure, its innocence is the trap of the travel; alluring, it conducts to the horizon.

When the probable disurbanization due to the Barbarian invasion of European countries squares with a first type of dissemination the dispersal in the tract of the geopolitical field, the disurbanisation resulting from the invasion of time is equivalent to a dissipation in the restriction of the chronopolitical field due to the rapidity of the means of displacement. In this way, once political importance was indirectly identified as space populated in the region as well as in the nation, whereas, henceforth, it is essentially associated with a spatial and territorial

depopulization. This is the result of the very high degree of people's, goods, and messages' mobility. This is the result of the paradoxal populating of the time of displacement.

Densification used to be the ultimate result of a stage in time and geographic location of human migration. Nowadays, such type of densification has been superseded by the phenomenon of deportation, in a political and social environment. As such, the quality of a place is essentially judged by its potential axis of displacement whether airport, subway station or --for the profession of planners-- topographical link extension. Present deportation is responsible for a social renewal in the urban integration. Such renewal results from disintegration of alternate urban-suburban migrations. In other words, deportation differs from densification in the sense that the latter uses the speed of migration as a means for targeting a goal, whereas the former implies that migration is no longer a goal, but rather

an aimless and accelerated movement. Therefore, the phenomenon of deportation can by no means be compared to the human levy en masse of the XVIIth century, or to the migration from one countryside to urban areas beginning in the XIXth century. This total mobilization, affecting both work and leisure, does not aim to transport people but to dephase them at an accelerated rhythm. This social deregulation, this disynchronisation of human activities'space and time, are becoming a vectorial power improving movement's dictatorship.

These constatations enlightened us about the contemporary urban crisis. It is not irrelevant to the political crisis. The Polis is not any more, pre-eminently, the political locus. The means of communication being dispersed are provoking a disurbanisation hardly perceived on the site of the metropolitan concentration. The 100 million persons passing through Houston airport in 1989 are facts confirming that the social and political problematic of populating is

shifting from a place to a non-place, the non-place of exchanges and quasi-instantaneous migrations. The road is now only a vector.

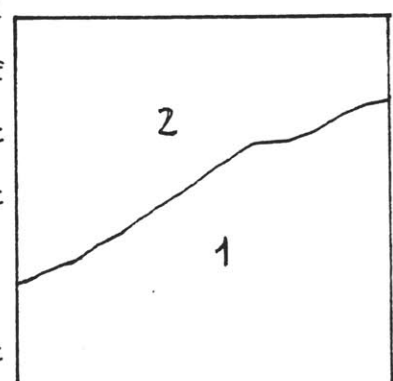
The state of urgency becomes the new town of a sort of time-populating, where heretofore the state of siege achieved space-populating.

of points that determines one (or more) line(s) with a coefficient of correlation: this line is a synthesis of these points. I note that aligned points are particular type of clouds, and there is more than one way to link them. The link I am tracing helps me to understand the behaviour of these points. It transforms and simplifies their reality.

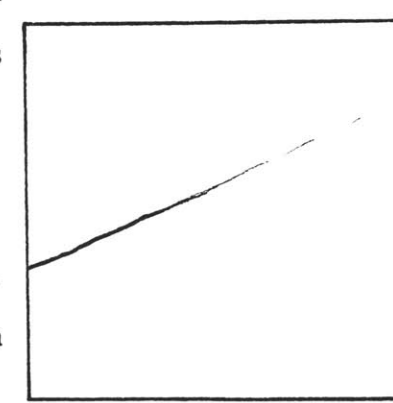


For me, as an observer, a line has two essential characteristics:

--When traced on a plan, a bi-dimensional space, it divides it in two. In fact, if I see it in a three-dimensional space, it does not separate anymore two spaces, but may become a mark in space.

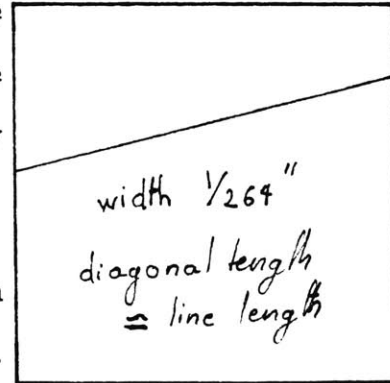


--When I trace it on this plan, it requires time to be written and, in the same way, when I look at it, it requires time to be read.



These characteristics seems to be general to the concept of linearity when an observer exists.

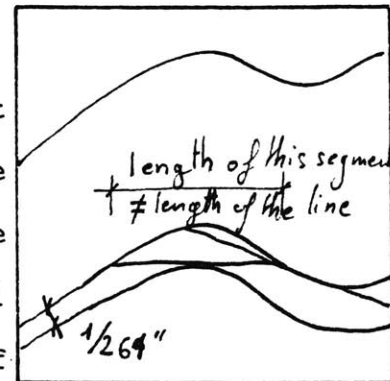
The only existing geometric straight line in the natural world is the horizon line (and yet we know and abstract its reality as a curved line).



The line I see on the paper has a width and a length. It forms a space in itself.

But this space has a particularity.

An area always has a diagonal, whereas it is impossible for me to represent or see the diagonal of a straight line. The compulsory approximation of the diagonal with the line length is the paradox of rectilinear space, and could also be its essence.



Therefore whatever is the argument, it is not interesting to consider the diagonal of the line, and, on the contrary, if it is, the concept of the argument is not anymore an observed line.

The successive zooming in on the screen of the computer would deform the argument of the constant existence of the width of the line. If I zoom a thousand times on the line, its width remains the same. I

forget that I am already using a tool that writes and reads. By metaphor, a pen and a magnifying glass at each zooming are different. Actually the metaphor itself is wrong, because what I am really doing is to keep the same drawing at each zooming, and I write beside another scale, that's all.

We considered here a straight line. A curved line seems to possess the same characteristics, but actually a curved line possesses always a diagonal dimension to which I refer in terms of internal segments. We can conclude that a curved line, having width, a total length and an intermediary finite and perceptible portion has all the characteristics of the area of which we spoke above. The curved line determines more than the straight line a space as we are used to defining it. We have to distinguish fundamentally the curve from the straight line.

2) The issue might be the culture of the observer. Actually, habits and education that teach the sense of perception (see Merleau Ponty Phenomenologie de l'espace) give, for instance, a direction to this line (left to right). The property of this last example is supported by the fact that reading from right to left carries another direction to read a line than the reading from right to left.

Every single thing in the world can be codified/represented by a group of lines. This code is more interesting when it represents the complexity of this thing; however, a perfect complex representation is the thing itself; therefore, we need to know what is the argument of the representation to know if the codification by means of line is interesting for us.

Lines are fundamental items in so far as codification or interest or intention makes them so.

There are two ways to look at a line: from the exterior and from the interior. The scale --say, the relative sizes of the observed line and its perceived size by the observer-- determines which way we perceive it.

(However, a third one might be the abstract representation by means of words)

3) Still placing myself before a sheet of paper, suppose there is line that means something in the world for me. I perceive it, right now, as a relationship between points. This is concretized by the fact that my eyes go along its matter to perceive the entire line. I imagine now that there is really something that goes along this line. This movement could be vibrations as well as vehicles or humans. So I discovered on my paper that the line is a link between two points, and can represent, and actually be, channels for circulation and communication.

I see the line, and I note that its extremities are important, because they are points of priviledges, here, points



Line can be seen from the exterior -- it is a separation-- , or from the interior --and here, it is a support for navigation.

of return. I determine, therefore, a second characteristic: the line as access to points-places. Moreover, I can stop my glance at a certain point and say that the line is on it. Thus, this line can represent, and actually be, a shared space between points, such as spaces of buildings on the street, or floors on vertical columns.

If I take a look at the whole page, I may lose the notion of the line as a movement, but I can discover that the line as a segment is a place itself. And I note that if it is infinite, I can cut it, in such a way that its parts are supported by the infinite line. In such a case it can represent, and actually be, an interface or a meeting place, for wide ranges of human encounter, as in the elevator, the train, the car. In this case, the place is support to place which might not have linear characteristics like a car for instance, but would not exist without it.

L.- NIGHTSHIFT.

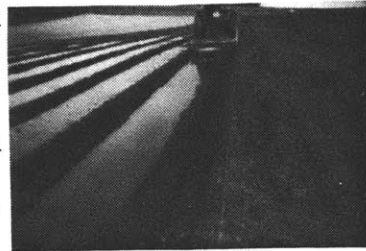
Wherein location in a trajectory is a function to geographical surroundings.

(Abstract notion of time and place with no reference to past)

To keep the course and to trace a straight line in the ocean, the desert. The relief does not exist, it is the monotony that governs the landscape; actually, the relief does exist, but it is not a reference: it changes and remains a simple topology that does not implicate itself in the path. The magnetic empire -the course-, the sun, the moon and the stars give points of reference.

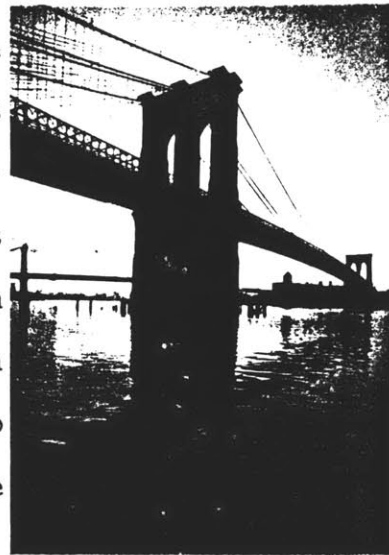
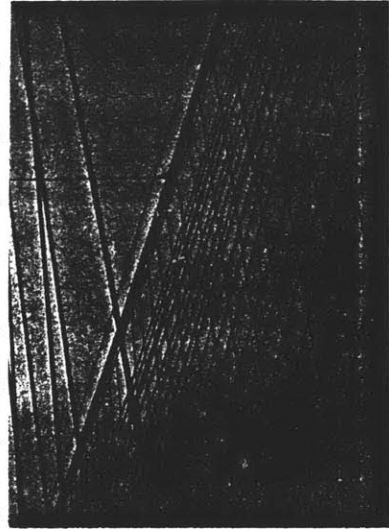
The route is mythical; one says: "La route du Rhum", "La route des Indes." Throughout the hours, the distance changes little for us, even in reference to the sun.

The monotony of the sea's journey is the same as that of the nighttime highway, or that of the Rue de Rivoli. But, in this last case, the variations of the shop windows become rapid points of reference.



(Rhythm)

The monotony is evaluated in terms of increasing and decreasing hours; it is also the walk on the Golden Gate, when it is raining: the continuous transformations of the landscape do not interest us anymore, it is the cable going down, tangenting us horizontally and going up, that locates the precise evolution of our path. Of course, on another scale, the vertical cables are marking rythmically our pace. But it does not offer us a geographic position; however, each of the verticals corresponds to the thought of an advancement certificate; in the sea journey, there are no spatial devices to give this certificate, except the line behind as mentioned above.



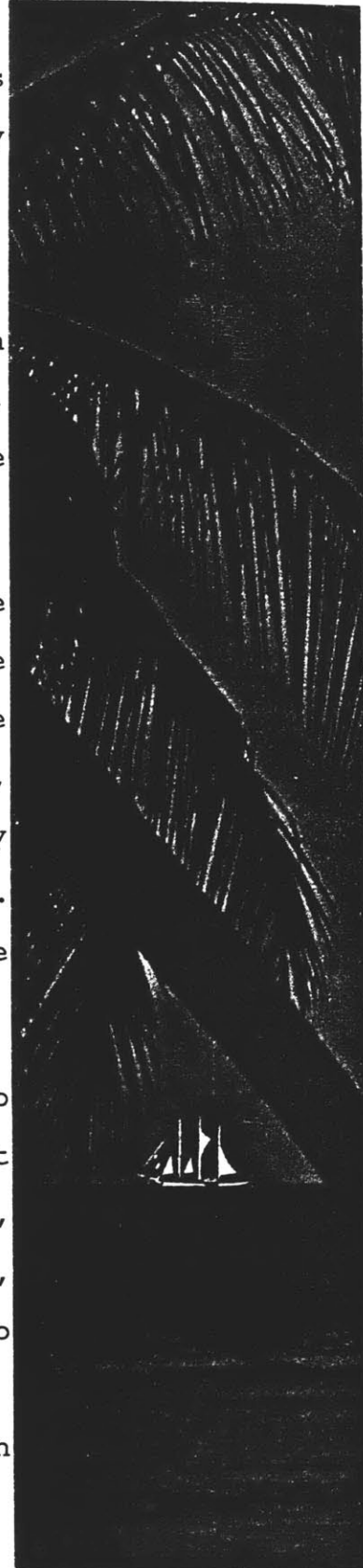
M.- PATH.

Wherein location in a trajectory is assessed by markers in the trajectory itself.

An ocean-crossing is never marked by a physical division, but by a temporal one, the evaluation of which could only be done with a measure of it.

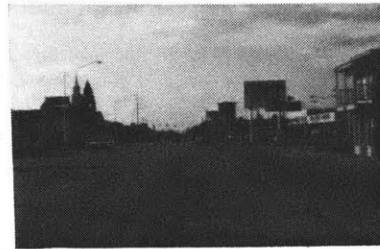
* If he possesses a sextant, only the sun's apogee can give him a notion of the advancement along his course. Here, the scale is only cosmic: To make his point, he does not need a watch. His trajectory will be known only at noon every day. Noon is a time straightly related to the geographical space.

* But when the navigator wants to localize himself at four p.m., he must comprehend the nature, that is to say, have a precise knowledge of the currents, the winds, and a very precise loch to give him the distance that he already covered. There is no relationship with time in this evaluation.



* A third possibility is the use of the sextant, charts knowing the polar derive, the exact measure of the time in seconds. Here, time and culture are intimately involved.

Interestingly, the vast suburban North-American rings appear to have the same pattern. One is driving, closing his eyes for ten minutes, and when one opens them, one sees the same place; the spectator (or reader, or visitor) not well-informed discovers actually an architectural jumble. Even if he learns how to see --to decipher-- this jumble, nothing would ever prove to him where he is exactly located. As if he were in the ocean, he must trust himself to a course (sometimes, a skyscraper, sometimes the rectilinear street itself, but he will barely admit that it is the sun that confirms the right direction), and, to the distance covered taken from the speedometer.

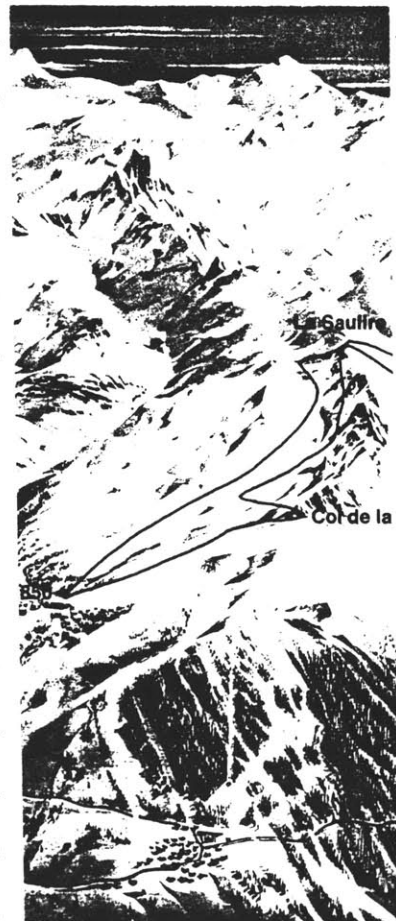


The mountain excursion is an interesting counterposition of this suburban

geography. It gives us multiple points of reference among which we have only too many choices. But a certain number of them are not an obvious common choice to different people. Therefore the path is better described through correlative references: not only after the gas station ("Texas" whose name could be forgotten) but also after the third light, not only the restaurant with red stores (because there could be some ambiguity with a house with the same type of color on the window, because the red stores might have been painted), but also the scissor-like crossroad.

The mountain shows us two mamels, a pick, a small forest or a ravine or still a saddle as intermediate goals. We are led in our reasoning to the notion of track, present in children's games and in the adult rally, in which the founded message authorizes us to go ahead.

We were interested in this text for the references which permit us to go ahead in our path. We want to know how to succeed in the measure of time, which is the architectural option that demonstrates our advancement.



Of course, eventhough we don't know where we are, we know that we exist.

Time on the Harvard Bridge is long and monotonous and measured in fact by microevents: the sand grains we see passing under our feet, the gutter, the cleft in the stones that border the walkway, or even a banana peel on the ground become an important source of spatial reference to inform us about a position of knowledge about ourselves in our movement.

We are always looking for them.

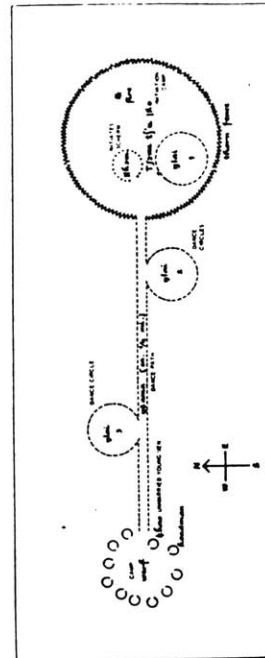
An interesting counter-example is developed in ice skating where the iced water is perfectly smoothed, and does not have any grains. Out of the first surprise (when I was five!), I remain always abashed by this plan whose movement is perceived thanks to its edges. I am the only reference, and when my eyes fixed on the floor, some doubts accompany my judgement of the velocity I knew just before looking at the ground.

If we approach the concept of path with its concept defined as the order of phenomenal succession and/or change, we are actually utilizing the definition of time.

If this order is viewed with other frames of reference, religious as well as interpretive of the world, to raise the path as a ritual phenomenon whose time linear aspect is abrogated: we could go a thousand times from A to B as the commuters, the sensation we have from this trajectory would be constant, avoiding the variations of the weather, of one's own mood... The ceremony retraces this constant and makes of the path an absence of linear time, it gives to the path a constant always beginning, fixed in time. Roughly speaking, many repetitions influence the sense of time; and thus, we can say that, very ordinary activities approaches the dimension of ritual ceremonies essentially due to the dimension of time.

In a Western frame of reference, Christian Norbert Schulz explains that "buildings and settlements are static, apart from certain mobile elements of secondary importance. Nonetheless man has succeeded in "building" time, by translating basic temporal structures into spatial properties (reference 18)."

He says: "Primarily life is movement and as such it possesses direction and rhythm. The path is therefore a



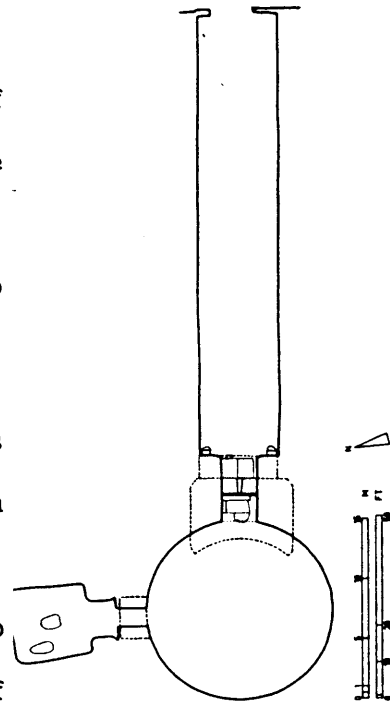
fundamental existential symbol which concretizes the dimension of time. Sometimes the path leads to a meaningful goal, where the movement is arrested and time becomes permanence. Another basic symbol which concretizes the temporal dimension is therefore the center. The archetypal buildings which visualize the concept are the Mal and the enclosure, which often appear in combination. The Mal used by ancient civilizations was usually understood as an axis mundi. At the acropolis, Mal (hill) and enclosure (plateau) are unified. In ancient architecture we also usually find a via sacra which leads to the center, and

Ritual path from settlement to initiation camp in Bushman "werf." Kalahari Desert. Africa.

which is used for ritual re-enacting of "cosmic" events. In the Christian basilica, path (nave) and goal (altar) are united to symbolize the "Path of Salvation" of Christian doctrine. The basic phenomena of the urban environment, the street and the square, also belong to the categories of path and center."

This analysis accentuates the hypothesis of linear time and space as an interpretation of the western world.

If it is so we should find a relationship between the physical representation of time and the space.



Mycenaean tomb (the "Treasury of Athens") Mycenae built c.1325 B.C. An unroofed corridor of "dromos" leads to the round, corbel-vaulted underground chamber. A side room is hollowed directly out of the rock. Direction and centrality.

N.-RUE DE RIVOLI.

Wherein location in a trajectory is determined by both qualitative and quantitative markers and inside and outside markers.

(Arcades as rhythm.

Where rhythm = time

References inside/outside)

Here, the Gallaratese is quite different from the streets of Bologna. The first one complacently monumentalizes time; the pace is measured in pure columns, the speedometer, and the building's space can only be understood, counted, by the outside space, as for a bridge. The street of Bologna puts the user in continuous distraction of the temporal references: it is impossible for him to regulate his pace in reference to the closed environment, because the arcades' intervals are different from one building to another, and also because they are different in their expressions. But the pedestrian is not disturbed by that. Actually, he does not need a precise temporal trim to know where he

is; it is all to the contrary, the passage in the street becomes a game where the object is to find oneself without the need to count. This street is a place in itself, there is no outside.

These differences in patterns are representative of the differences in the urban concept: in the Gallaratese, the division is produced by a single decision whereas the Bolognese streets are partitioned by different ownerships within a collective consensus regarding the street pattern. We see here an example of the correlation between the social production and the feeling we obtain on the path and its time.

The Rue de Rivoli is a complex mix of the two modes of recognition of space that we saw: the time as rhythm and the marks in the space. In the arcade, the reference is the shop window, and not the architecture; it is the decoration that seems to offer a reference to the passerby of this corridor, whereas it is actually the intervals between the monuments that stipulate his precise

urban location. The reason is simple: the shop windows' variations are little-by-little swallowed in a universe so repetitive that the variations cannot be memorized, a little bit like the waves around a ship, also different one from the other. It is mentally important not to let oneself be swallowed in their iterative variations. (Who, by the way, has never chosen to be lost in the multiple reflexions of the meerschaum, loosing at the same time the notion of minutes?).

It remains to the pedestrian only the references of the intersections, with the Place Vendome for instance, and the presence of the monuments (le Louvre, Les Tuileries, a statue, a square and the subway stations which are at the same time, an alteration to the rythm of the arcades). It is the exterior, equally offered by the street's asymmetric section that enriches the feeling of time.

(The shopwindows of Rue de Rivoli are not real temporal references due to the innumerable variations. The real time references come after picking up

something important for me in these variations, so to make of it a particular point, an outside point equivalent to the squares or the interruption of the subway station)

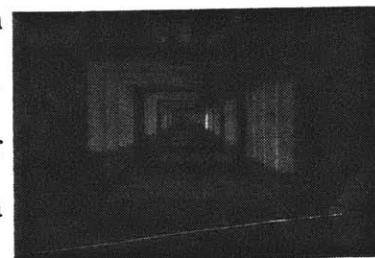


(limits of recognition)

The path in "Il Corviale" creates a fantastic sensation of what it is to be lost in a linear model in terms of time.

What allows the passerby to know where he is? The scale of the door, and the knowledge of his pace might help him. An article of ... proves how it is only the scale of the architecture that gives (the image of) time to the actor in space.

In the Corviale corridor, the numbers on the doors prove one's advancement, because one knows that each number corresponds to an apartment that has a size. One can therefore evaluate the time of walking between two apartments.

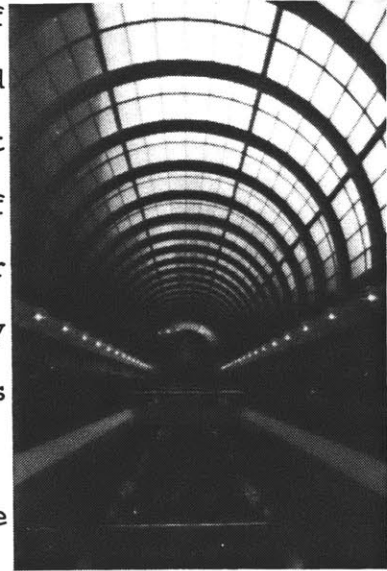


It is exactly the same pattern as in the evaluation of time in an elevator. We know the usual time of travel between two floors by evaluating the age of the

elevator, in correlation to the height of the building. Sometimes, we are surprised that it is so rapid or so slow. That confirms that we really have a sense of time not given by the scale of the linear space (we don't see it), but merely by the indication of the floor we pass inside the elevator.

(We might think more generally about the difference between stop-go systems such as the elevator and the continuous flow systems, such as the moving side walk or paternoster lift. In the second model, the notion of advancement is uniquely related to time. The rhythm of floors is replaced by the reading of the watch and linearity become more abstract. We note that this pattern could be found in the elevator when considering the space between floors and this is well demonstrated by shuttle elevators in the skyscraper)

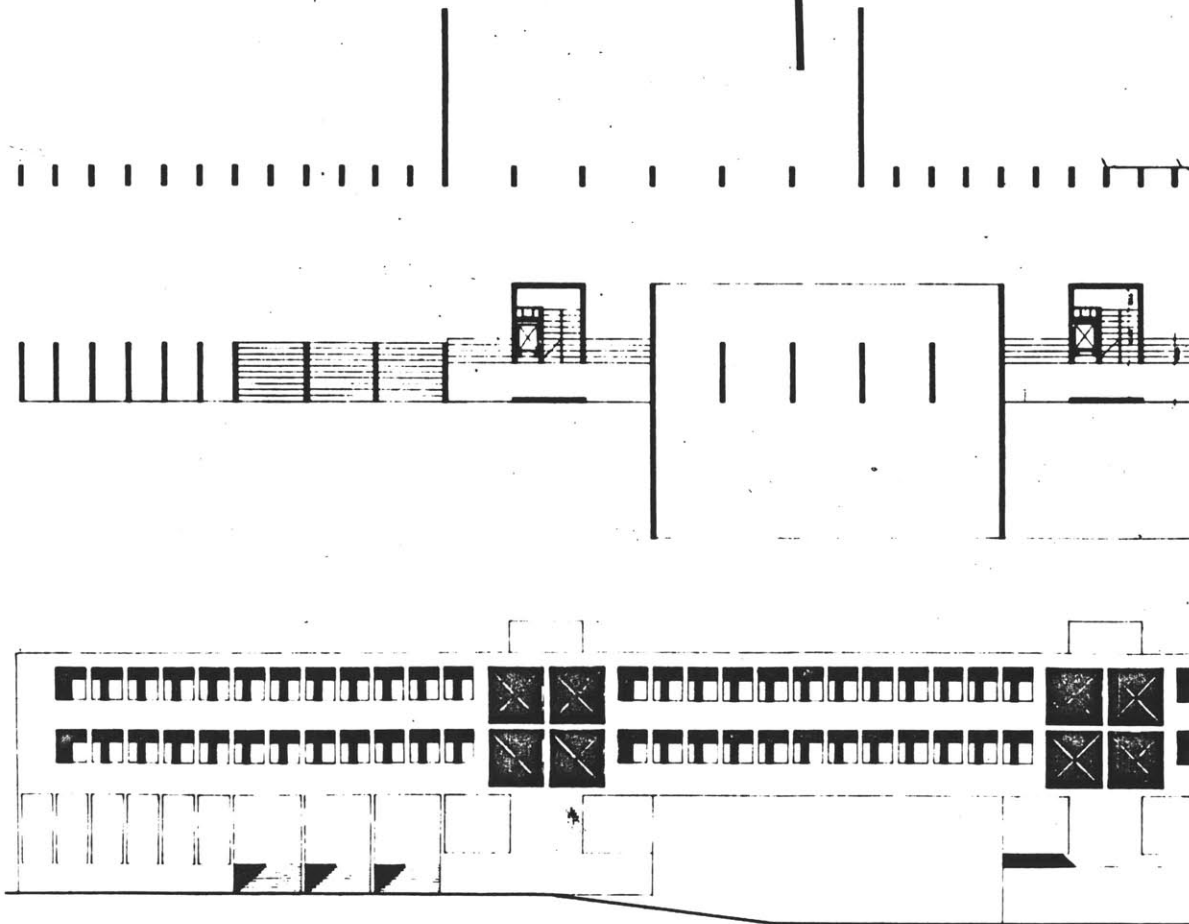
The length of the space is the main difference between these two linear models. In the corridor we usually perceive the path's end, whereas the elevator does not permit a physical



evaluation of the point at which one will stop. Both models are first perceived from the exterior. Only then, we know their total length. We know where we are going --the number of the apartment or which floor--. We can evaluate the distance only if, when inside the model, we see its end.

If we don't have indicating numbers, rhythms that we recognize or rythm we can refer to, and if we do not see the end, we are just lost.

Il Gallaratese: In this image, we can only count; the outside markers are in reality a main referenece.



in the behaviour of the commuters and that of the American moving constantly, is generated by good sense in its words "we have to suffer to conquest the paradise."

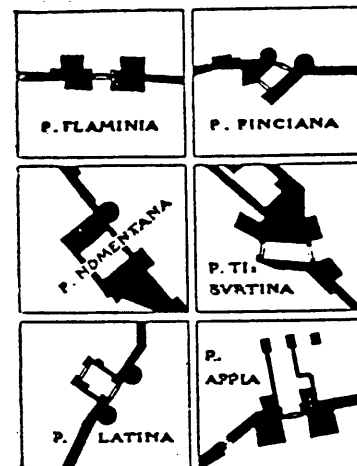
The myth that percourses our Western human path, could then have its source in Christ's Path of the Cross. The paradigm of this hypothesis is found in the ten-mile arcades going out of the city of Bologna, after having been for miles in the city itself. The model of the structure of this fantastic city's street is extracted from it and become a covered passageway completely nude, or better, abstract, in the sense that it is not anymore the structure of the city, but a model for it.

Until now, the covered passageway was of the vernacular order, protecting the walker and improving a direct adaptation to the natural space for the city. Out of the town, we discover the cosmic order of the same spatial situation: the arcades travel through the landscape and put in it an undulating line that goes, and climbs, to hook itself at the top of the hill.



Chapels rhythm this cross-path.

These punctuations of the path, religious rest-alt, are found in other forms in other civilizations and draw their strengths in human energy. Actually, our pace at the time of an ascension --and it is fundamental to note that we are always analyzing and talking about an inclined path in terms of ascension, and not in terms of decline-- is effectively submitted to compulsory stops. The trajectory is marked in a similar way in the installation of the alpinist's bivouac, in the alpine chalets that are placed every six hours of walking, by the inns along medieval roads, but also, at another scale equally submitted to the natural capacity of man, in the punctuation of this text, the breadth of the paragraphs (let's remember here the book *Eden, Eden, Eden...*, whose contribution to the elaboration of a new form of language has been emphasized by the introduction of Roland Barthes, explaining the contemporaneity of the only sentence that composes this book).



The Aurelian Wall, like almost all walls, was an opportunity for openings. At the same time, an architect will consider these doors as alteration (or nodes) of the wall.

We should counteroppose the hypothesis of these natural and cultural nodes to the symbolic stairs, with no intermediary landings found in India or in Mexico. These ascendances are not created for man and clearly specify their purely cosmologic and symbolic allocation: ascension towards the sky, towards the

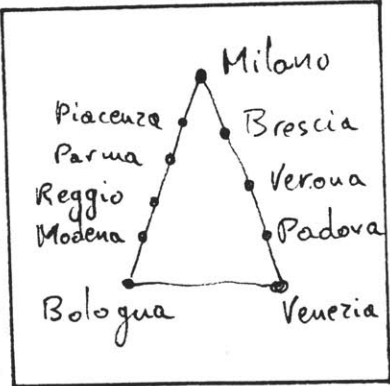


recognized universal forces, at the same time that they represent extraction from the occult forces. Their foundations in the Chtonian locus soar them up towards the stellar forces in a somewhat megalomaniac trend.

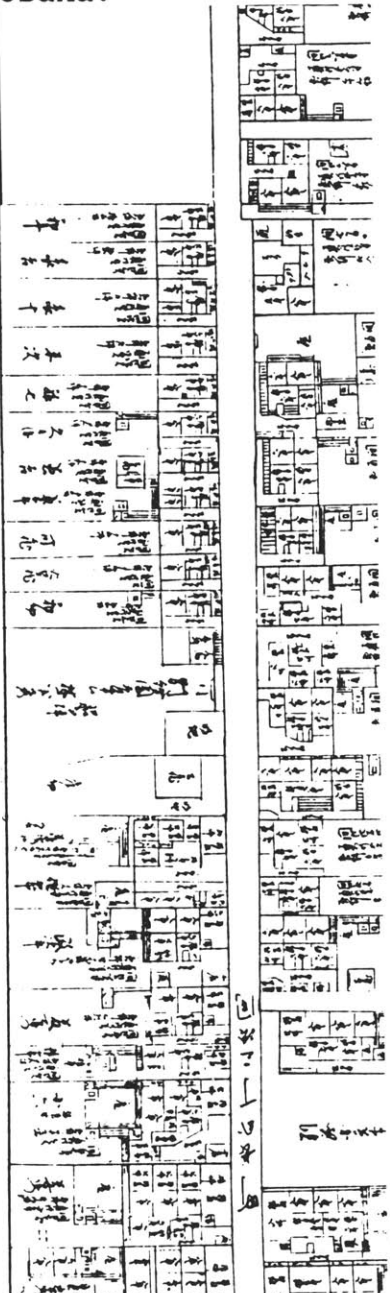
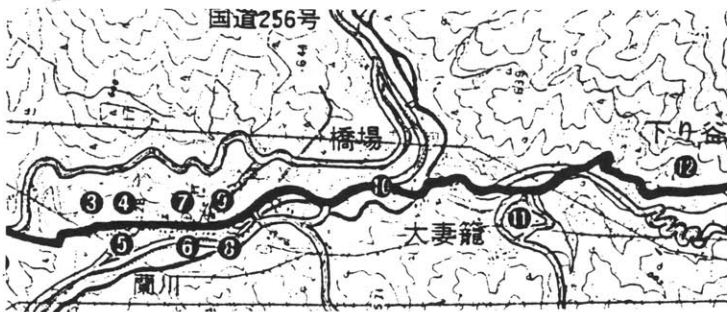
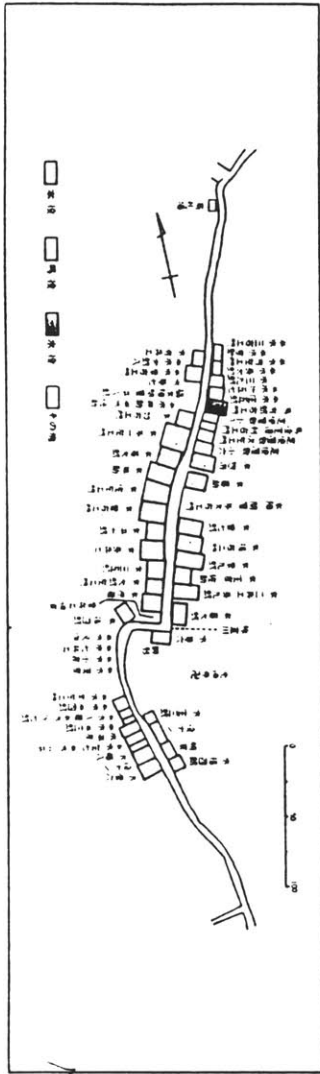
Route of the "Royal way of the Coast" and the "Royal way of the Mountain" in the Incas realm at the time of the conquest of the country by the Spanish in 1524-1533.

But the difference between the vertical element --the one we are led to talk about now-- and the horizontal path is in their spatial situation. The first one is in the middle of the space, the second one is in a bidimensional space (explained in "geometry"). Consequently, the first one is immediately swept by the eyes and becomes a virtual linear space, whereas we generally cannot have an entire view of the second, eventhough we are sure to be able to walk along it.

As mentioned above, the street is measured originally by the same phenomenon. An agrarian city did not need to be indefinitely extended. The territory around the village contained a number of inhabitants limited to the power of agrarian production. We perceived the punctuation following the utilized instrument: the gas station and restaurants on the highway for instance. The road-engineers know that the velocity of circulation is of fundamental importance to analyze the progressive immobility of subjects: the faster the subject is moving, the further he will go in the same amount of time. Depending on the hypothesis, we observe a "natural" birth of intermediary points in the given trajectory. One of the examples that shows it most clearly is found on the Nakasendo, "highway" between Kyoto and Tokyo. Every five kilometers, little towns were used (till 100 years ago) as stops for the people walking (among them few could afford to buy a horse) between the two big cities (see illustration in the following page).



Therefore it seems we could believe that Between Tokyo and Osaka:
 it is impossible to prolong indefinitely
 a linear city because natural nodes are
 always built along itineraries.



Tsumago's plan c. 1790: a straight line shows the city as a passage. The configuration of the space does not have primordial importance in the representation of the street.

P.- EVENTS.

Wherein the appreciation of time in a path varies with the intention and the social context.

Let us take the case of the choice between the elevator and the stairs, where expectation of time and saving of energy are the parameters to evaluate.

We know everything about the stairs : no anxiety; time and energy and the characteristics of the space used are well-known (and then, what a surprise to climb Borromini's stairs in Palazzo Borghese whose steps are less than 11 cm high)

The elevator reveals how complex the evaluation of its parameters is. We can distinguish three stages.

The first one is in front of the elevator where you don 't know how much time the elevator will take to come to your floor. It is the first evaluation of time in which you are also aware of the people coming. This opens up the second stage where everybody enters the elevator and

pushes the buttons: people going further than you are your friends (they are factors of time-contraction), whereas the people stopping before you are your enemies: they are factors of time-expanding. When you know the people you are riding with, your evaluation of the time of travel will be shorter if you know they stop at the same floor or further. Of course this psychological pattern has strong repercussions only if you are in a hurried situation where the evaluation of time is very important. A third stage appears when you realize that the elevator can be stopped by anybody outside your world. You cannot evaluate the time this could take, but you can make an evaluation negotiable with your anxiety.

The scope of your travel is giving you time to generate hates and loves, thus making more complex your evaluation of time.

If you wish the presence of people to talk with, your time enters in consideration to a lesser extent, and the considerations above are no longer so

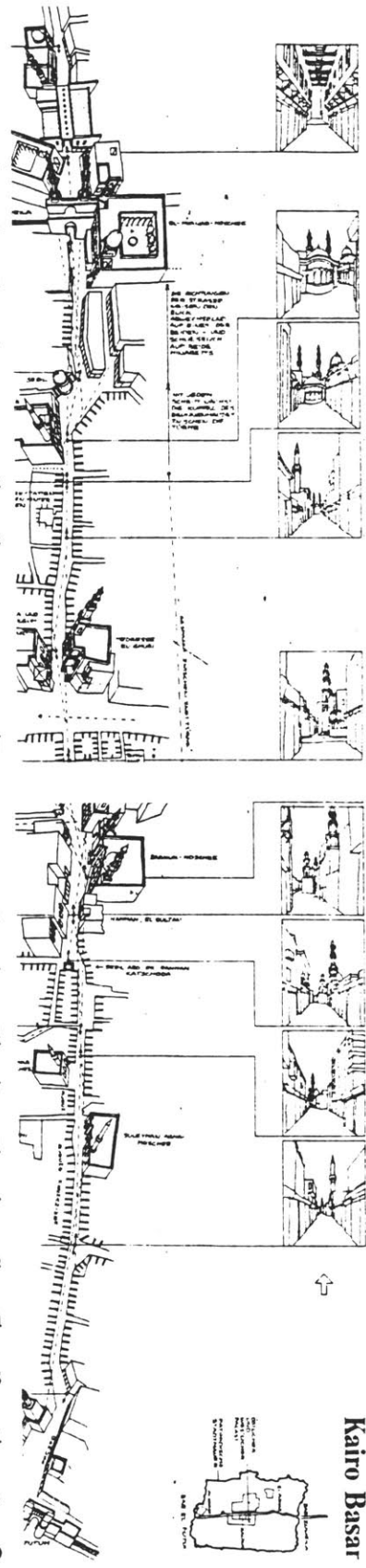
strongly related to your evaluation of time.

Contemporary scientists assume that macro-economy makes magistral mistakes in terms of individual behaviour, but can resolve mass problems in a consistent way.

Time taken as a parameter seems effective only if considered as a real and massive abstraction.

(From space to infinite increasing scalelessness)

The definition of Leibniz's relational theory of time derives time from events and not the other way around. In other words, events are more important than moments. Thus, we understand how repetitive forms on a large scale would be problematic in existential terms for human beings. We are able to perceive time only within the limits of our own lifes. Actually we would not have events as a reference for ourselves, but a rhythm; this rhythm determines moments. But these moments, when not related to



spatial references, lead our spirit to an imperceptible sensation of time.

If on a highway for a very long time and if nothing is happening --a city, a bridge, a tower-- as a singular event, the rider feels neither his own existence, nor his movement. He is in a state of waiting. Without means of counting time, such as a watch, the regular noise of the car, the line of the axial mark, the rider loses the sensation of doing something. The passage of events will give a sense of time through which he will perceive its own existence. Thus the linear trajectory/space has to be punctuated to offer some existential capacity.

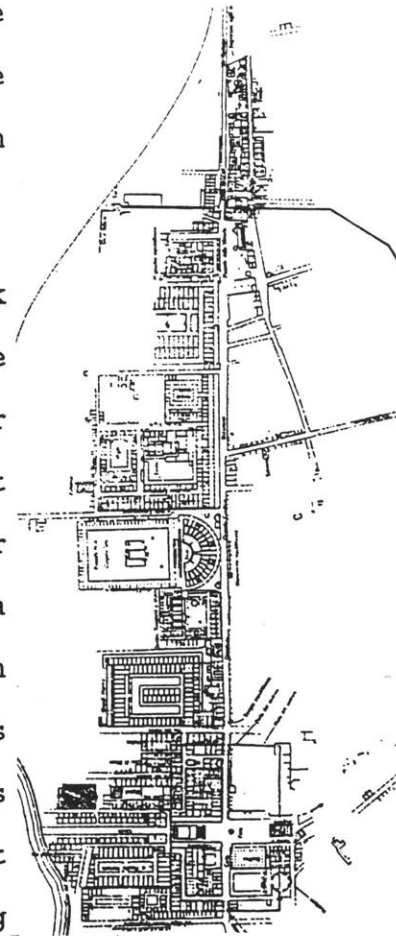
We note in the highway trajectory that linearity tends to be represented with punctuation relative to the car and not to man. The scale of the highway is the scale of its instrument. A human interpretation would say that we are losing the human scale for the abstraction of the travel. Actually we should note that the tool man uses is at



the Roman road is punctualized when arriving in the city by stepping on blocks that allow the riders to get off their horses.

his scale and the tool is translating the journey: the velocity is seen on the board, the scale of the landscape is seen through the windshield.

As a result, the risk in a linear track conceived in this way is to miss the mark, the stopping point: in the elevator or in the street, the inadvertence about time deviates the intention. It is clear then, that time in the path is already a mental translation. So, time on our watch replaced by the regular rhythm of arcades or of nodes (whose translation has already been described) is not as direct and immediate for a localization along the path than physical marks. What is important seems actually to be the choice to stop. The landmark and not the number, the architectural variations whose repetition should be perceived as finished or hierarchized are what matter, otherwise the user would be on the edge of the infinite and of the absence of a nowhere, metaphor of the time our contemporaries are projecting.



Ostia.
The characteristic linear development of this city is essentially due to the position of the primitive Castrum, erected at 250m from the Tevere, and to the track of Via Ostiense. The Decumanus had the possibility of aligning the public building in a regular way. It is the agglomeration of these markers that improves its linearity.

Q.-REPRESENTED LINEARITY.

Wherein modes of visual representation
are critiqued.

A long time ago, I was living in this
neighborhood. I kept something of it in
my memory.

At this time I took pictures of it. This
January I tried to recognize the
pictures. Then I tried to compare them.
In February, I went to the place and took
some notes. Here are all these notes.

Reflexions on place,

I could recognize the photographs
because...

On site, the DAY, Sunday 2/16/86 at 4:20
pm.

On site, at NIGHT, Saturday 2/8/86 at
6:30 pm.

1. Cedar Street.

PHOTO:

...because the street is lower and the gas station is in the foreground.

DAY

To be in an ascending street is less grand, less imposing. The inflexions of the street show at the same time a discontinuity of trace (compared to others).



2. Grove Street.

PHOTO:

...because of corresponding photographs viewed in the other direction.

DAY:

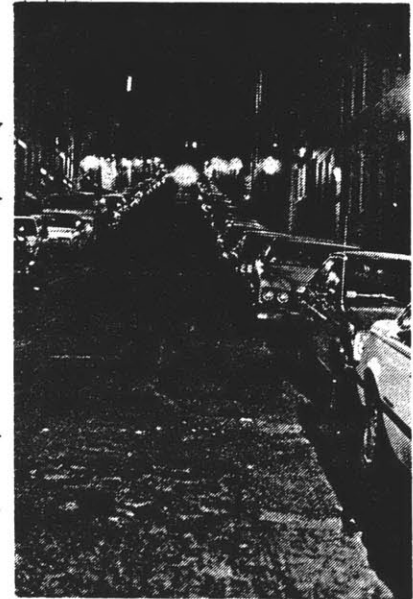
Not sympathetic, because it is not finished.

When penetrating in a smaller street, I feel progressively encircled.

A green bow-window is catalysing my attention as well as a pink VW, or a vault.

NIGHT:

engaging; foreground enlightened by Cambridge Street. Very luminous. The problem is the end: black and evasive.



3. Anderson Street.

PHOTO:

...impossible: Anderson and Garden are confounded.

DAY:

Not sympathetic, EMPTY, the mass of the building on the right.

No trees. Big bow-window of the hotel on the left. The light dries the street.

NIGHT:

Sad, <but irregular> not inviting except for the end.



4. Irving Street.

PHOTO:

...because of this bow-window and the direction of the car.

DAY:

Open, without pole (except the bow-window on the right; negligible), without interest,

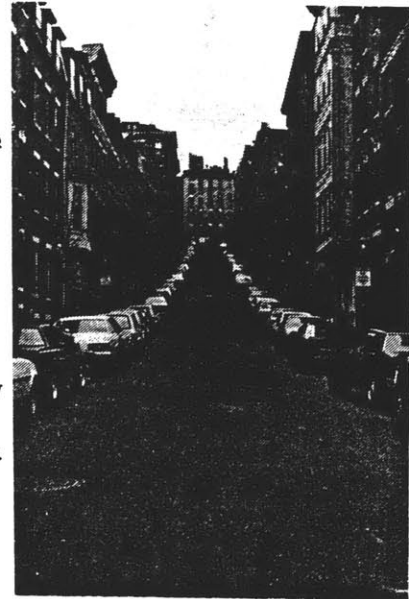
do not feel and sense the bow-window on the left.

The lateral corridors are less intimate, no scale in perspective. The doors and the architecture are less chic, poorer.

NIGHT:

simple, clear, no surprise. The cars in a negative direction darken the street, (in opposition to Garden Street).

It seems interesting to be at the end.



5. S.O. Russel Street.

PHOTO:

...because it is less large than the others, and only one row of car.

DAY:

gloomy, lugubrious, sad.

Till it opens itself on the left.

Sadness of the cross-wires.

The cut on the big building is making it sympathetic, however.

Not any more pedestrian appropriation: only one of the two spaces belongs to cars.

The lateral corridor makes me think of a parallel street.

NIGHT:

Gay, the edifices are enlightened by the lights placed near the wall.

But a big unique light. Street not very long.



6. Joy Street.

PHOTO:

...because it is finishing further than the others and does not close.

DAY:

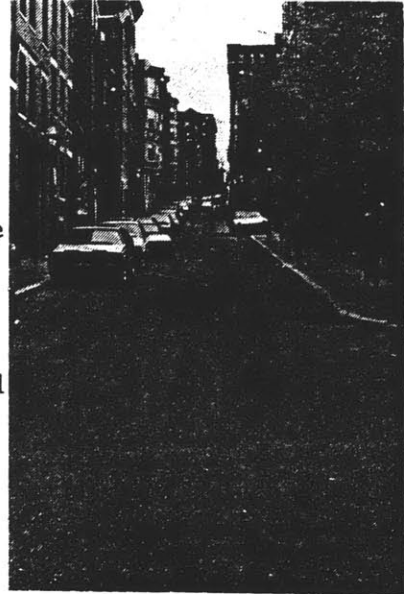
Very sympathetic. Because of the edifice's scale at the end?

On the left, on the right, textures and material precise and finished.

NIGHT:

Sad, big black blocks at the middle and at the end.

Sympathetic, because there are people moving.



7. Hancock Street.

PHOTO:

...because it is finishing further and
the perspective is closed.

DAY:

A curious sensation because it is convex
in a strange way.

Sympathetic, colors and forms varying and
happy. Clear at the end.

NIGHT:

Sympathetic, very large, curved at the
end.



8. Ridgeway Street.

PHOTO:

...very small and gives on City Hall.

DAY:

The connotation of backyard is decisively
negative.

9. Temple Street.

PHOTO:

...because I see the City Hall.

DAY:

darker than the precedent. The absence of cars means also emptiness or absence of utilisation.

Hancock Street receives more light, having, however, the same section (the same for Joy Street).

NIGHT:

engaging, a man sitting, flat, horizontal, less tiring, the temple is a goal.



Comparison of these streets.

The first one is done with the 50mm objective, the second one with the 35mm shift objective.

Between Cedar Street and...

...Grove Street:

-- the direction of the car parked, more light and the sensation of going somewhere makes Grove Street nicer.

-- the homogeneity and the trees (?) make Cedar Street nicer.

-- the continuity of the roofs on Cedar Street, the important foreground in Grove Street makes the first one nicer.

...Garden Street:

-- Garden Street being steeper than Cedar Street, the latter seems nicer, perhaps also due to the presence of the two big buildings on Garden Street.

...Irving Street:

-- the bow-window of Irving Street gives a nice scale.

...S.O.Russel street:

-- in spite of the edifice on the right, the scale of S.O.Russel Street is intimate; if the sidewalk on left were wider, it would be better; the perspective at the end is nice... escape, but retained... ambiguity?

...because of the bow-window, the emptiness is not felt; is it right in reality?

...Joy Street:

-- the tree gives a gentle scale and even if the end of Joy Street is high, the curve offers an opening. The presence of the curve gives an impression of increasing slope. In spite of some emptiness and the variety of Joy Street, it belongs to homogeneity (of another kind than for Cedar Street); actually, its texture is alive; Joy Street seems also more enlightened.

...Hancock Street:

The dissymetry of the latter imposes a comparison by sides.

-- on the right, Cedar Street is nicer than Hancock Street; the metallic stairs

weigh on the ambiance; the end monumentalises it (also because it imposes the scale); the street seems empty.

-- on the left, Hancock Street is clearly nicer than Cedar Street. Because of the contrasting lateral/end, it is more luminous, the transition of forms at 45 degrees are smoother, there is no blind walls as in Cedar Street.

...Temple Street:

In the latter, the foreground is immediately nicer but the background makes me fear, and however rich it seems, the slight skim is a romantic access to a temple.

Between Garden Street and...

...Grove Street:

the first one seems wider whereas it might be the contrary; the factors are: macadam clearer, emptiness in the foreground, smaller building, the type of building at the end.

...Cedar Street:

Because of the section and the slope, in Cedar Street, the space seems compressed, in Garden Street, it seems slanted. However, because of its end, I prefer to walk in Cedar Street.

...Irving Street:

The end of Irving Street places the regular and varied perspective; moreover, it has no blind walls.

...S.O. Russel Street:

The seduction of the latter is in the bow-window, in spite of the sordid left sidewalk and the metallic stairs.

But Garden Street, at least, seems to conduct one somewhere because it is bigger.

...Joy Street:

The latter seems more pedestrian. Is it the final opening, the metallic stairs, the same on the tree (?), and the house on the right where a garage door is nice because of its finition? The tops are anecdotic, whereas in Garden Street they are repetitive.

...Hancock Street:

The left wall is austere; the right facade is black, heavy, amplified by the end. The left buildings seem to be separated one from the other, the edifice set-back has an effect of future alignment in which I can understand that the others could be demolished in the future.

...Temple Street:

-- on its right: Temple Street has a pedestrian quality with trees. The roundness of some buildings and the temple at the end.

-- on its left: Temple Street is dead, sombre, banal without the life of Garden Street.

Other remarks:

Garden Street is more sympathetic than Irving Street, because the ascendance is cut in half.

Cedar Street is more sympathetic than Grove Street, because of the continuity of the roofs.

I could actually go ahead in these comparisons. But an analysis of these remarks gives already some interesting results.

Firstly, that the instruments of recognition of a street in the photograph are: the slope, some remarkable architectonics (like the bow-window), the direction of the car parked, the section and more than anything else, the edifice at the end of the street.

As far as this recognition seems to be attached to details, and not the sense of a whole (like the continuity of the roof), the wide angle objective does not carry a lot of information about it.

Secondly, it determines the factors of my decisions relative to sympathy, in my order of importance:

For the 50mm objective:

- 1.- Discontinuity of slope.
- 2.- Direction of the car (front view).
- 3.- Architectonic: bow-window and tree.
- 4.- Variation of textures.
- 5.- Architectural homogeneity.

6.- Mobile and exceptional elements
(badly parked vehicles, personage).

7.- Connotation of the building
(temple/industry).

For the 35mm objective:

1.- Continuity of roof.

2.- Perception of the profile and the
section.

3.- The end of the perspective.

4.- The walls of the high buildings.

5.- The metonymy.

Both views give an ambiance of the street
that is systematically positive when
something activates my curiosity, and
negative when I really do not what
happenes.

Thirdly, the missing part of this
representation is always forgotten in the
reading:

-- Colors: the red sidewalk might be a
surprise;

-- Textures: however, we are used to
understanding intuitively dirty papers
and the texture of brick and wood, so
there is no need to mention it.

-- Noises: actually, here, the
photographs evoke silence.

None of the notes on place mentioned the colors of these streets or the noise of Cambridge Street as part of the decision, but this is perhaps because all of them are colored the same and contain the same level of noise.

The possible disparition of some semi-mobile elements, like cars, panels, trees are never mentioned. It is probably that we take these elements as being definitive; it is clear in these notes that they are, however, making a great part of the judgement.

Fourthly, the statism of these images did not seem to influence the judgment. However, the terms used in the visit of these streets are more spatial than the terms used in the criticisms of the photographs: "imposing, penetration, light, intimate, scale, large, emptiness."

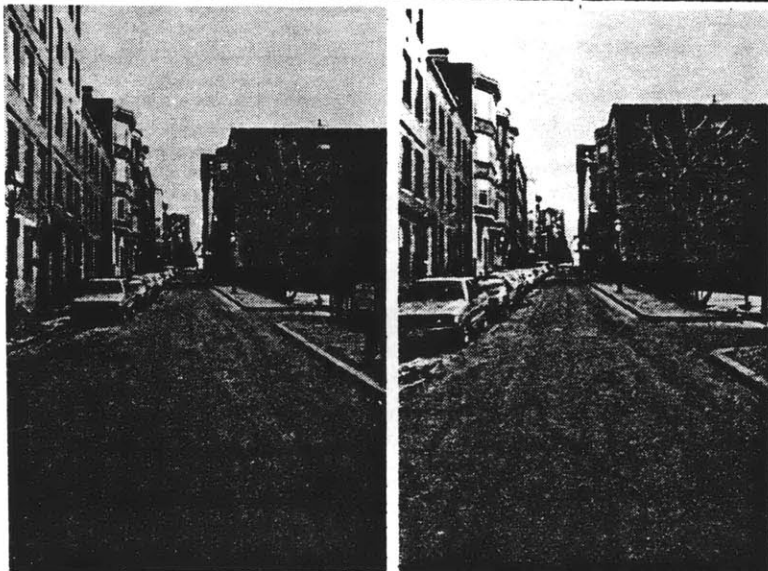
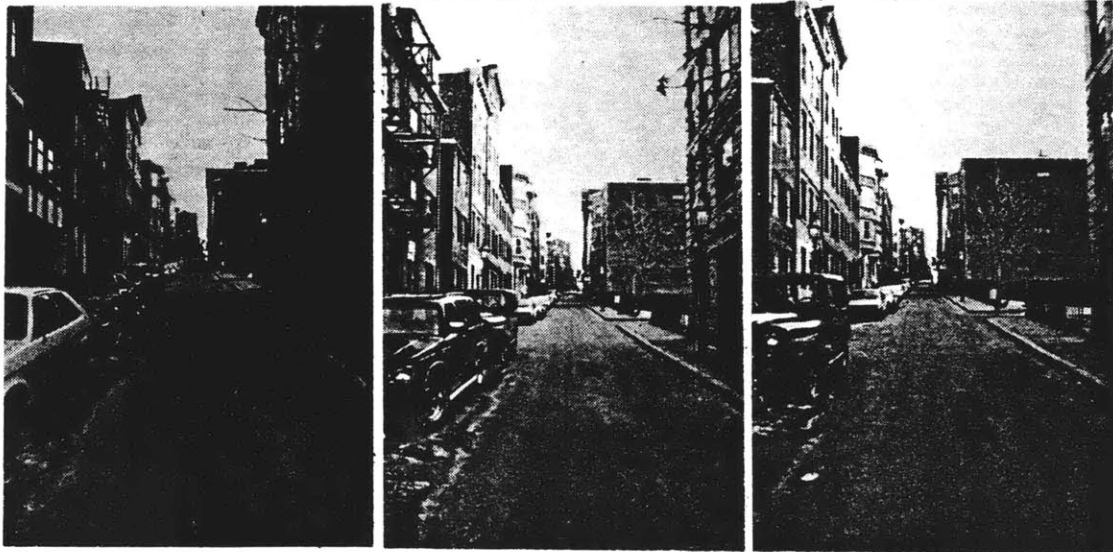
We have therefore to analyze in another way the representation of the space with photographs.

We can roughly imagine three methods of representation.

1) Taking pictures every ten meters, for instance, to simulate the depth of the space.

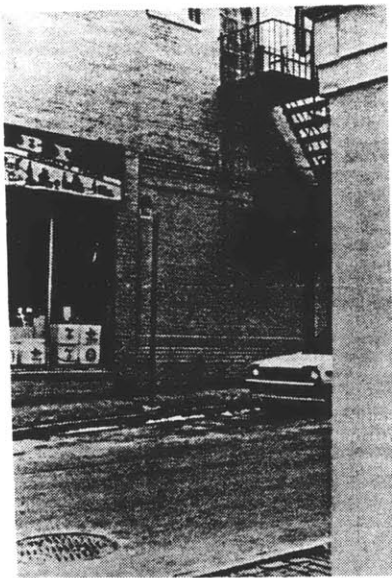
This method has the essential advantage of being rigorous and presents the space in an anonymous way. Actually, when compared to the second method, the observer is excluded from the space: if the observer is the photographer, he cannot take the picture that he wants or likes, but is obliged to follow the machinery of the instructions.

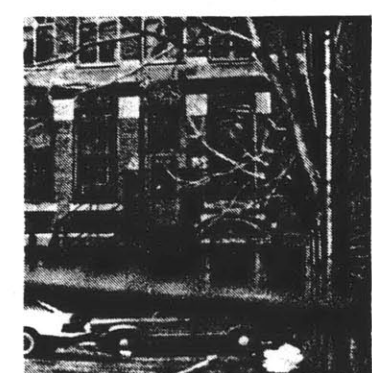
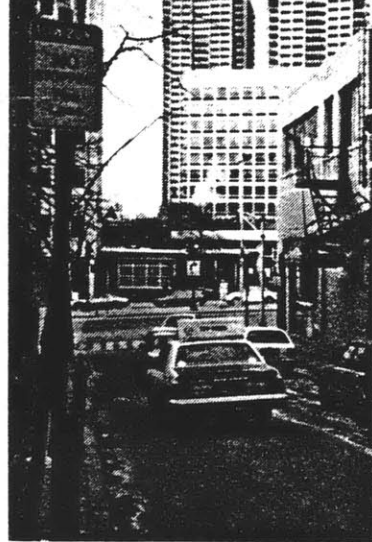
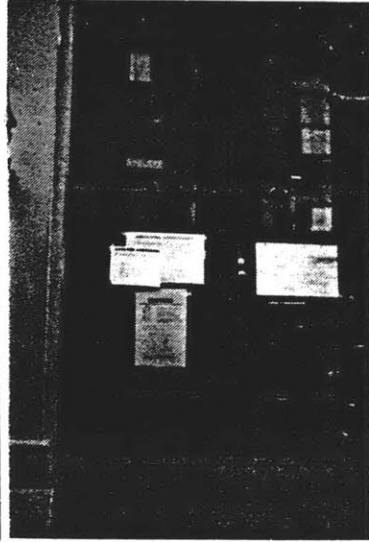
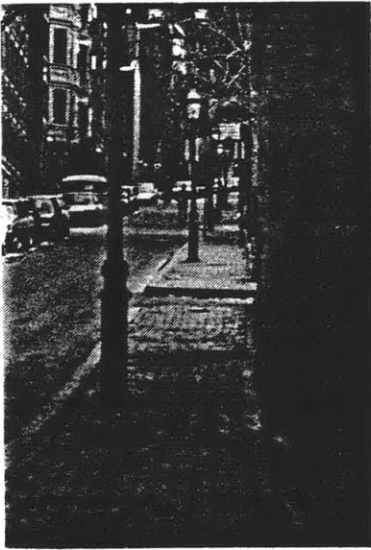
On the other hand, this method offers to the reader a temporal dimension. The space is only a support to a successive advancement certified by the successive photographs. We are almost in a movie whose images are rigidly dictated by somebody who does not know the space, but who wants to advance in it. The space is considered as a pure form. It does not have particular interest, because it is not generating its own model of representation.



2) A variation of the first model built the second one: the path, in taking pictures, remains the same, but these pictures represents the photographer's view; the observer is obliged to feel the street according to the sensibility of the photographer. He is not only included in the space, because he is looking at subjective pictures (made by the subject), but also included in the sentiment of the moment of this space. On the other hand, he does not know what he would have felt, because he does not know the rigor of these pictures.

Actually, he knows that the photographer is a man sharing the same culture. It is then an issue of trust. We can note, for instance, that several architects, one by one in the street, will take two or three identical details among 18 shots. Again, in the strict (pure) observation of these 18 pictures, it is impossible to know what would be the common items. In spite of this ignorance, we know that there are precise common pictures; and this knowledge might be of a higher level of information regarding the sensibility of the space than a rational and systematic, also boring, representation of the street, where no details can appear.





3) The third model is a cubist approach in which the successive shots are not marked on the image: every glance, whether affirmation, regression, bifurcation or intention, are accumulated within the same image, actually on the same temporal point. The subject is totally included in the perception of the space, but does not have any reference, in terms of time or in terms of space, to evaluate the importance of the image. This cumulative image is taken with the personal feeling of the moment. The observer, nevertheless, is introduced so much in this image that he is obliged to grasp some of its part as being a subjective reality that could be perfectly his. The conditional employed means that it is also possible that this bag with Stop and Shop would be present and meaningful to perceive the space as an entire constituency, eventhough it could be replaced by another brand "Purity Supreme". They are relevant to the perception of the space. Although an American would not be plainly conscious of it, this bag for 90% of the world means "this is an American street" in a more secure mode than any architecture.

A drawing of the street is immediately more abstract, because it loses its reality: we don't know if it exists or not. We can therefore project our own reality easily. As such, it has a greater potential for interpretation.



When we deal with a simple form of geometrisation like the orthogonal projection of the elevation of Bishop street in Montreal, we are not observing space anymore, but a synthesis of the buildings' forms. In fact, these facades are originally drawn to be built, and to be a clear representation of their form; a contractor's built forms. They do not want to represent any spacial feature of the street. However, the towers are seen here as volumes forward the elevation, because they are normally like that. As such, they represent not only the rhythm of "facades", but the rhythm of volumes. Therefore, we have a notion of the rhythm in the space of the street.

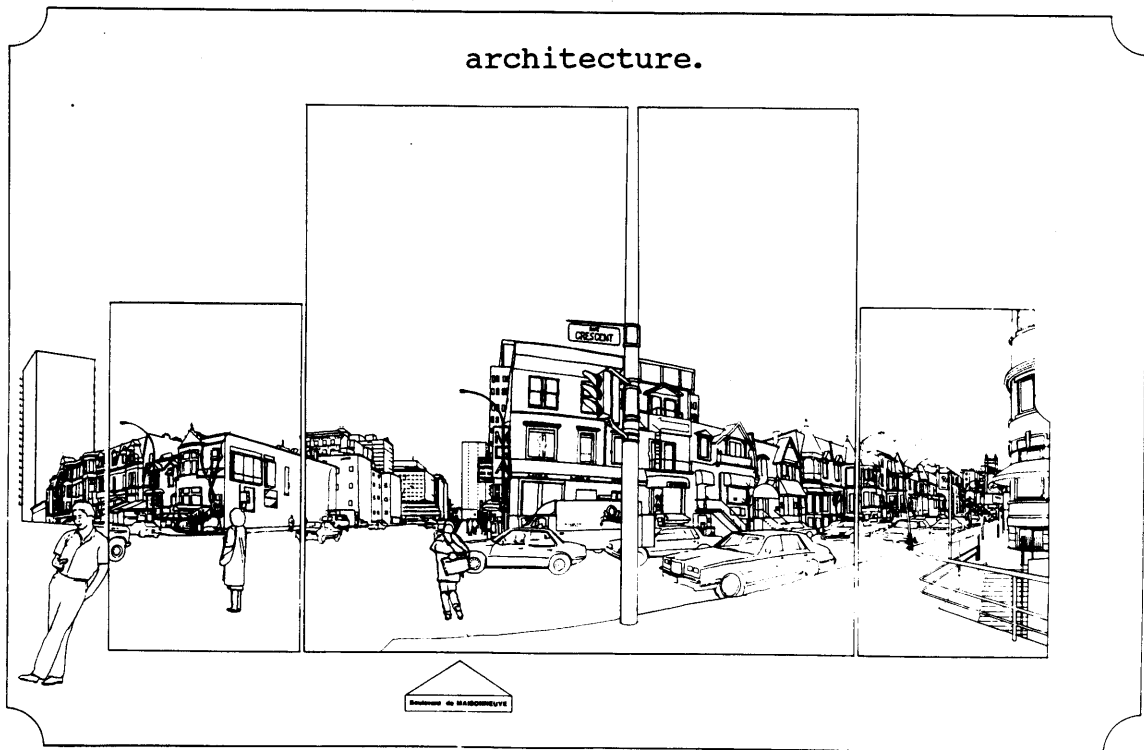
The normative interpretation of the orthogonal projection allows us thus to understand the space. Without the shadows, however, we might make a wrong interpretation of the tower's volume -- deflected instead of inflected.

In the drawing in perspective, it is not the same kind of process of interpretation that takes place. It is our habit to decode the volumes of a drawing by looking at their respective sizes and by focusing at the intersection of the lines. The interpretation is made through normative rules of perspective,



and not through a normative interpretation of

architecture.



The drawing presented here proposes also some more features rarely introduced in the elevations: provisory and semi-permanent elements that at the same time give scale and explain the depth of space because of their size invariability.

It is essentially because of them that we have a better notion of the space, although the perspective in itself contains intrinsic features of volume never attainable by a single elevation.

The informations of a perspective are centralized. There is a notion of foreground and of background.

There is more precise information about the same object in the foreground than in the background. This is also a reason to understand better the space.

The perspective at 180 degrees that we have here, described the same street. The additional information is:

-- Treatment of angles.

-- An apparent distortion of the straight line that obliged the reader to analyze what it is that he is looking at. Although complex, this distortion is richer than a 45 degree perspective: it

gives the two ends of the street, and a relative tendency to imply a reading in which we are more aware of the partiality of the point of view (usually taken for granted in a 45 degree perspective, just because it is usual)

-- In the perceived (but not real, as in the elevation) length of the linear space of the street, we isolate a forward space, we identify it, and then we confront it with further space; this referential volume-space and this segmentation insures a perfect interpretation of the linear space.

This phenomenon seems to be transcribed from the notion of rhythm that we explain in another chapter.

A plan of the street is actually giving the same kind of information as does the elevation.

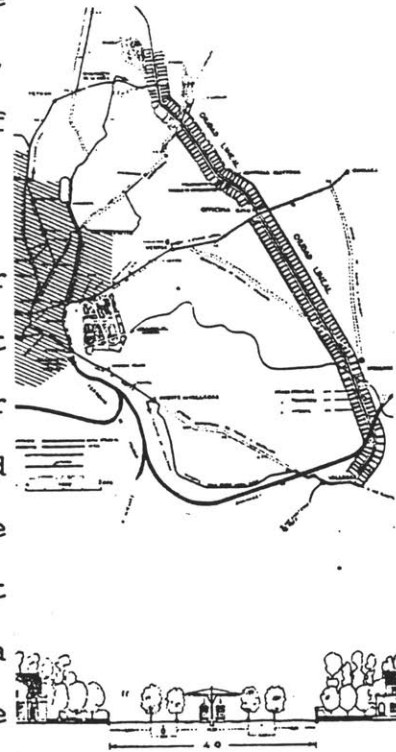
Both have been used extensively by utopians to plan linear cities. The quintessence of a drawing is its abstraction of the reality. Planners take advantage of this to generate repetitive

features, such as the sections, and have the easiest way to draw. The product, intellectualized, is not thought of fitting the human body.

Geometry remains preponderant in our conception and our view of the city. It employs very often the straight line for simplicity of lay out, as mentioned above, or for visual reasons as in the analysis of Bill Hillier who argued that analysis of the cities could be done by a visual tool. The straight line would have a propensity to explain social behaviour because our view is rectilinear. A third

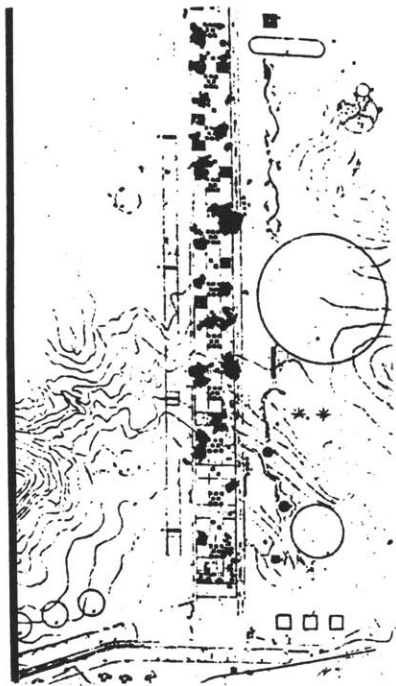
advantage of the repetitivity of linearity is its extensibility, that leads us to perceive a linear project as satisfying whatever program: it is manageable.

For instance, the linear track is conceived by Soria y Mata as an egalitarian tool. This is only because he was considering only the track itself and not the surrounding space. He forgot that the infinitively-extended lines of a building would loose the sense of compactness and physical unity which is



Soria y Mata, linear city, 1899. The axis is defined by rapid transit; the parallels, 200 m from the axis, delineated the City. The transversals marked every 100 m do not clearly denote a superrhythm, inside or outside markers. Probably the drawing allows this kind of approach, impossible to conceive in scale one, except for means of locomotion like trains.

the very nature of cities, and that --as mentioned in another chapter-- there are natural nodes emerging from linear features. He probably thought like Drury, a writer on economic and social matters [Linear cities: The Streamline Towns of the Future, 1933], that a city is essentially a mechanism by which people and goods are kept in close communication, and that a single axial route with a minimum of crosscurrents of traffic is the most efficient means of organizing it; a city to him should have the efficiency of an industrial plant, which is of course, linear.



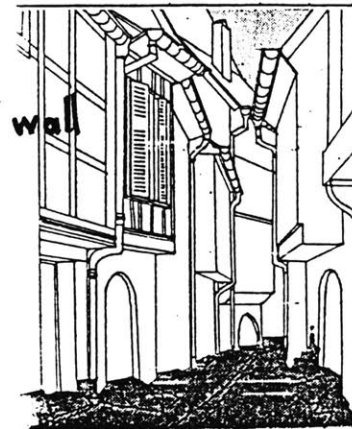
R.-RAIN.

Wherein the rain shows human constructs to be inserted into the soil.

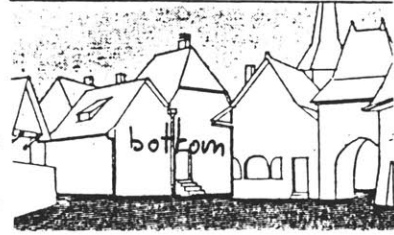
The street, when it is raining, stretches doubly its perspective: we are in a plan that separates two worlds, the real and the virtual, its image. We are floating on a sea as smooth as a mill-pond. The plastic expression of the perspective is reinforced. There are now not just four lines of forces, but eight, that lead to the vanishing point of the straight North-American street. This vanishing point is our goal, but, when it ends up as slightly curved or as a facade, forms in fact, an intermediary goal, a threshold.



We see more: the verticals are accentuated, in doubling in length. The space is bigger. The section of the street is different and narrowed. We enter into the depth of a crevice. Actually, we feel twice privileged: on one hand, by the exceptional quality of the rain, on the other hand because we penetrate more deeply into a world anchored in the Earth, and, from this fact, take off towards the sky.



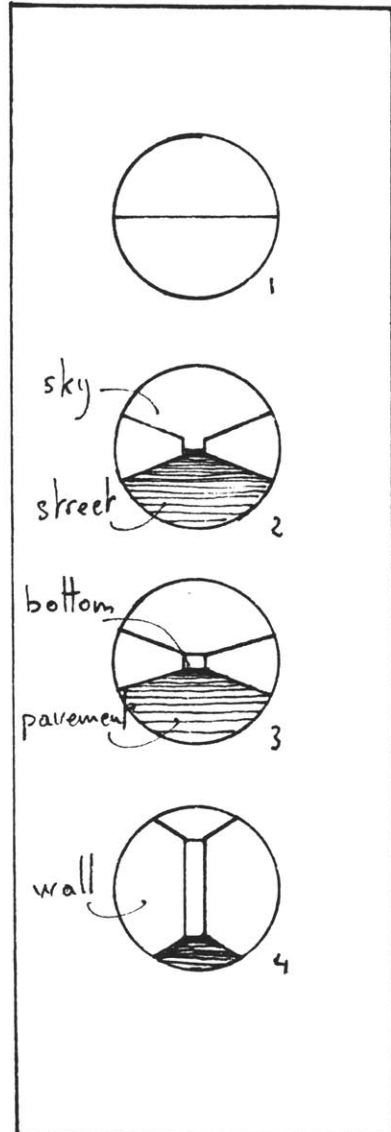
But at the same time we feel the anguish, because the rain sinks us into the earth. It reveals the street as a collective corridor in which we are the troglodytes sheltered from the inclemencies. It reveals itself as a Chtonian strength elaborated by man. It reveals our power of imitation of nature.



The human transformation of space from a space with no track (fig.1), a space bordered (fig.2), to a space limited (fig.3) whose insertion in the earth is accentuated by the rain (fig.4) may quickly become a notion of enclosure.

We could interpret such linear space as -- Strong collective built space with a quality of intimacy.

-- The result of densification due to exterior factors such as the limitation of land or speculation around a center of communication and of goods distribution; these last reasons tend to disappear.



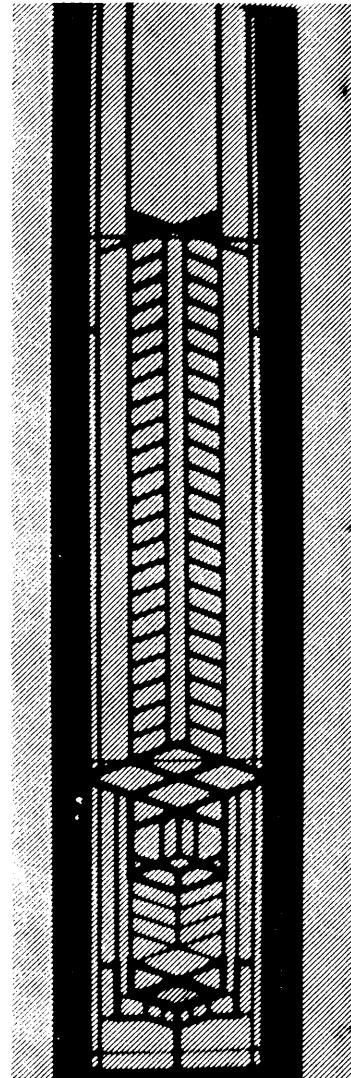
S.- INTERPRETED LINE.

Wherein two architects who use lines teach us how this concept is related to their project.

A line can also be viewed as a particular and efficient tool of analysis. The following essay tries to reconstruct the virtue of this tool. For this scope, it compares two architects on the basis of their written ideas and of their projects.

Wright and Sullivan's...

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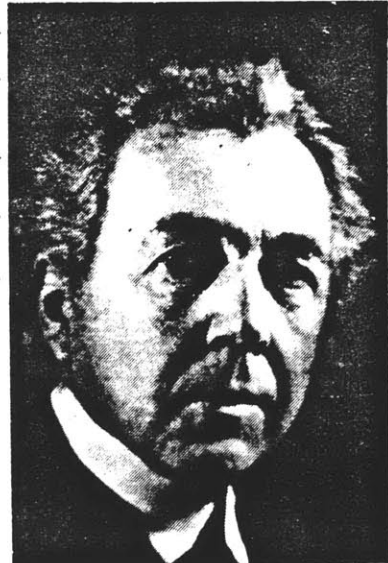


This text is a comparison between Frank Lloyd Wright and Louis Henri Sullivan. The analysis arises from the general to the particular. The theme of analysis is the linear phenomenon. It concretizes itself in the vertical linearity of the skyscraper and of the architectonic of details. The ideas as well as the buildings of the two architects authorize this method of comparison.

The remaining conclusion of this analysis is deceptively simple. It consists mainly of the realization that the idea Sullivan's buildings express is the same one that his written works convey.

The case of Frank Lloyd Wright, although more complex, will describe what kind of coherence, or incoherence, are found between the indescribable diversities expressed in his projects and in his writings.

Wright's and Sullivan's philosophical considerations are better decoded in their autobiographies. To make a correct comparison between the two men it is



necessary to understand that Sullivan (1856-1924) wrote his memoirs when he was already a professional in decline, and alone. He was only thirteen years older than Wright (1869-1959), but he belonged to another generation, the one which had been working after the Chicago fire. But the same generation underwent a complete transformation from the return to the commercial classicism. Wright's generation was carrying forward this transformation.

The concept of transcendence and organicism find a common point in Louis Sullivan and Frank Lloyd Wright in the philosophy of Walt Whitman.

The philosophical differences offer a possible, but not probable, explanation of these architectural forms.

Monsan [1] considered Wright as well as Sullivan as frustrated poet-mystics.

The character of Sullivan applies in this sense.

Wright in fact, too much enamored by the transcendental cult of self-reliance [Emerson's Essays (1841-1844); "Self-

reliance: Nothing else is sane, in fact, than the integrity of your own mind..."], imbued himself and American culture with it.

Of course Sullivan was an enthusiast of the doctrine of Emerson, but his adherence to transcendentalism had overall a contemplative character. Wright, conversely, applied the process of the cult to himself, convinced of being the translator of a prophetic mission, while Sullivan appreciated more the romantic and intimate component of Emerson's doctrine.



Through his Philistine appreciation of the universe, Wright could be easily convinced to be the hero of a new architecture, whereas Sullivan could not have had this behavior having been in Europe: Sullivan never would have affirmed, as Wright had done on the Guggenheim Museum site : "Bill. they will still try to figure this one out a thousand years from now!" [2].

The formal result of such a context expressed itself through the different approaches that the architects formed around the organic concept of architecture. Sullivan gave a good account of his general position when he spoke about the style of a tree [3] saying that the style is only the adaptation of an organism to its environment. Wright took this concept, progressively enriched, and made it coincide, in 1939, with the expression "organic society" [4] in a concept totally ambiguous.

In this context, the synthetic and theoretical formula of Sullivan, "form follows function" [5] ("which would mean, in practice, that architecture might again become a living art") is understandable. Moreover, "the function created or organized the form". In fact, he had already explained in less clear terms that "pressure" is the "function" and the "resultant" is the "form".[6] The probable motivation of the clarity and the simplicity of this assessment are found in the fact that he was obsessed by the research of a style.

For Wright, "'form follows function" has become spiritually insignificant: a stock phrase. Only when we say or write "form and function are one" is the slogan significant."[7] Wright pointed out here the mark of the reappropriation of the formula. The ideas of Wright were more explorative in many different ways, so to express himself through a kind of coherence found, not in material , nor in temporary style, but more evidently in the very design for its own sake. He has never healed in himself the trauma of structure versus phantasy.

A common point between the two men is the consideration of function as part of the vital force, and emotivity as individual, but also the character of the function as expression of the environment, social and physical, in which it has been developed. In this sense, the vexing conflict between devotion to pure nature and devotion to the "age of the machine" gave to the work of Wright's first creative period -up to 1920- its special power: "nature became my Bible". Nevertheless, in 1901, he formulated his famous Hull

House lecture on the Arts and Crafts of the Machine [8]: "Rightly used, the very curse machinery puts upon handicraft should emancipate the artist from temptation to petty structural deceit and end this wearisome struggle to make things seem what they are not and can never be...Yes, although he does not know it, the Artist is now free to work his rational will with freedom unknown to structural tradition." and later:"Consider well that a house is a machine in which to live but architecture begins where that concept of the house ends... Standardization should be put to work but never allowed to master the process that yields the organic." The meaning of this speech takes another expression when Wright later wrote: "A conscientious architect learns to understand the nature of human nature so well that the character of his structural ability may eventually justify calling organic architecture man's love of presenting man to man." [9].

The context.

Sullivan was thirty-one when Wright entered his office (1887) and he had only been practicing his characteristic style for five years as a partner with Adler and two years in a drafting position in Adler's office.

Even at the very beginning, Wright was proud of his power of imitation of Sullivan's motives."Then I improvised some ornaments such as I had seen, characteristic of the Adler and Sullivan buildings. I had studied them a little..." [see for the argument, his autobiography and the article by Grant in Architectural Record, "Sullivan and Wright";[10]]. In the same way his well-known expression "Lieber Meister" concerning Sullivan can be interpreted as an ironical manner of a devaluation, which was surely more unconscious than voluntary. But Wright was flattered and exhilarated when he saw the plans of the auditorium, making him feel that he was in the main current of contemporary architecture. In fact, Sullivan was himself a new-comer to these currents.

Three years later the Schiller Building was built, showing differences between the preceding buildings: progression towards the smooth wall-surfaces, oblong openings and heavy projecting cornices, which find precedents only in the firm's private house designs, and notably in the Charnley House, for which Wright was responsible. The confusion of purposes in the Schiller Building mark the impact and importance of Wright's presence in the Adler and Sullivan firm. The Dooly Block, the Pueblo Opera House, the Seattle Opera House, the St. Nicholas Hotel are cases in point.

The concept of structure and atmosphere had not taken shape in Wright's imagination. At this moment, he was too concerned with formulating and expressing the idea of architecture as geometry.

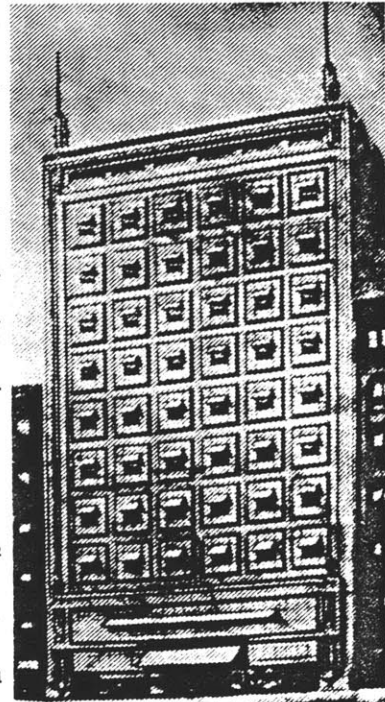
From 1893, when Wright and Sullivan parted, Sullivan built only three residences. They were strange amalgamations of Wright's later domestic style and Sullivan's own vernacular style.



he resorted to a picturesque composition bringing discordant parts into harmony. For example, the Late German medieval style of the St. Nicholas Hotel (St Louis, 1892-93) reconciles undulating bays and a top-story gabled roof. There were also occasions when Sullivan would adapt someone else's design to fit his needs.

Wright's ideal of shelter as a specifically human condition proceeded not from his social orientation, characteristic of our own day, but from a geocentric empathy:"...the true earth line of human life-indicative of freedom." "...the house not ON a hill or ON anything but OF the hill." [11]

Wright's geocentric ideology is but the point to Sullivan's contrapuntal barycentrism: the edifice per se and in se.



the Meyer Building,
307 West Van Buren
st., Chicago, Il.
1893.

The tree: Sullivan.

The unique paradoxical standpoint that Sullivan developed resides in the consideration that nature's rhythm has two parts, growth and decay. It seems an anticipation of his own life.

On the other hand, he argued in "The Tall Office Building Artistically Considered" that a tall office building has naturally three parts. There is, first, a two-story base, and each of these two floors is to be differentiated on the facade; immediately above, there is "an indefinite

number of stories of offices piled tier upon tier,...an office being similar to a cell in a honey-comb". At this point, the choice of the metaphor of a tree and not of a honey-comb for the whole building identifies the importance of the linear phenomenon in the architectural concepts of Sullivan. In the top of the building there is the attic, which along with the basement, houses the building's mechanical equipment. This function Sullivan called "physiological"; elevators and other mechanical devices were part of a "circulatory system." [12].

The argument of the tree as a natural reference for this three-division partition proceeds from a classical background that could be identified not only in Viollet-Le-Duc , favorite Sullivan's reading, but also in Vitruvius.

Sullivan's solution for the vertical expression of the skyscraper has been universally accepted as his most important contribution to architecture. It has generally been avowed that it issues



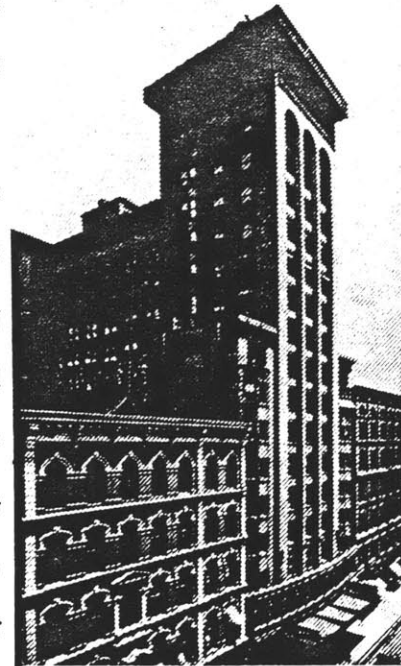
The Schiller Building; 64 west Randolph St. Chicago. 1891-92.

Despite the extremely Sullivanian character of the Shiller Building as a whole, the clean-cutting of the windows in the rear wing and the little horizontal motif above the bay windows on the front could be due to Wright's hand. The horizontal motif with the central colonette becomes the consistent theme of the Meyer building.

The horizontality of the Meyer Building is partially maintained in the clean-cut "Chicago windows" of the stock Exchange Building.

from his earlier Richardsonian experiments [13]. That opinion is not totally accurate.

Sullivan's Richardsonian buildings of the late 1880s have relatively ample bays that correspond to the wide-panning capabilities of the Roman arch rendered in cut stone. The method is a load-bearing one, and Sullivan confronted no difficulties with it in masonry designs. The Auditorium Building, the Walker Warehouse, and the Anshe Ma'ariv Synagogue have strong lithic expressions blending well with their building technique. But in buildings supported by metal structures, height and method of construction conflicted with this heavy, load-bearing, and essentially tectonic treatment. In 1890 when the firm received its first skyscraper commission, the Wainwright Building in St. Louis, Sullivan rightly realized that the style he had been developing for commercial buildings would not be appropriate in this instance, and hence made the Wainwright a "proud and soaring thing"[14] by going to an expression he had not used before, the Gothic.



the Auditorium Building, the Walker Warehouse, and the Anshe Ma'ariv Synagogue have strong lithic expressions blending well with their building technique.

but the three-partitioning concept was already there: The elevation of the Chicago Auditorium (1886-1889) is divided in three parts: a two-story base, a binding-base of gigantic arcades and a three-story attic. This composition was the premise of his ideas expressed later.

But the three-partitioning concept was already there: The elevation of the Chicago Auditorium (1886-1889) is divided in three parts: a two-story base, a binding-base of gigantic arcades and a three-story attic. This composition was the premise of his ideas expressed later.

The influence of the Cathedral of Reims, the nave of the cathedral of Paris [for argument see: The Transcendentalist idea of Louis Sullivan[15]], and of Viollet-Le-Duc caused Sullivan to draw lessons applicable to modern work from the Gothic, translating the spirit of the Gothic structure from cut stone into metal and terracotta. His facades for such buildings as the Wainwright, the Trust and Savings Bank Project, and the Guaranty are reinterpretations of the interior elevation of a Gothic cathedral,

with its gallery, in many instances, becoming Sullivan's important second floor.

The early European experience of Sullivan, (and that Wright will take up after his first period, probably defining for him another field of action) is

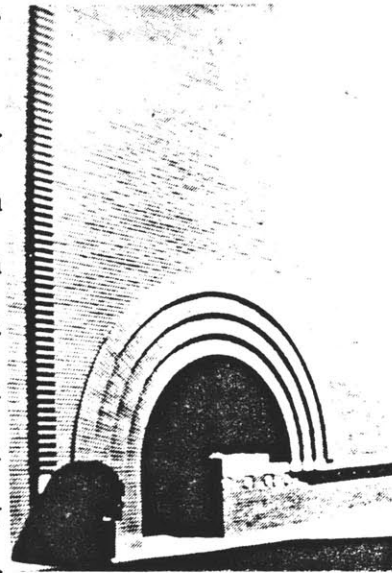


"Flower in the crannied wall"
A decorative figure in cream white terra cotta, designed for the hallway of the Dana House. Richard W. Bock Sculptor.

probably the main reason for this behavior.

Despite Sullivan's brilliant solution for skyscraper facades, he would find from time to time that his "Gothic elevation scheme" could not take in some prominent features Adler had determined for a building. In such cases he resorted to a picturesque composition bringing discordant parts into harmony. For example, the Late German medieval style of the St. Nicholas Hotel (St Louis, 1892-93) reconciles undulating bays and a top-story gabled roof. There were also occasions when Sullivan would adapt someone else's design to fit his needs. The similarity of Daniel Burnham's Ashland block of 1892 and Sullivan's Chicago Stock Exchange Building of 1893-1894 is a case in point.

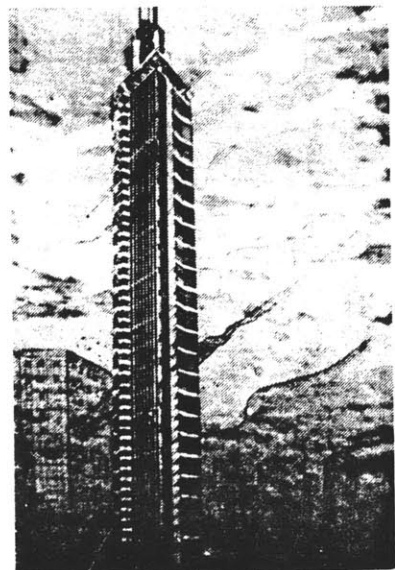
Pragmatic necessities in day-to-day architectural practice had caused these departures from ideology. Studying them is of less interest than realizing how the confusing anomaly of alternating non-supporting and supporting piers looking alike on his facades clarifies his idea of "form follows function."



Sullivan was convinced that tall buildings were to reveal their essential loftiness by a closely spaced rhythm of uninterrupted verticals, even if ambiguities in mechanical expression had to be committed to achieve it. In the end, expressing a transcendental character was to Sullivan the fundamental reason for design, and his skyscraper facades clearly reveal this fervid belief.

The tree: Wright.

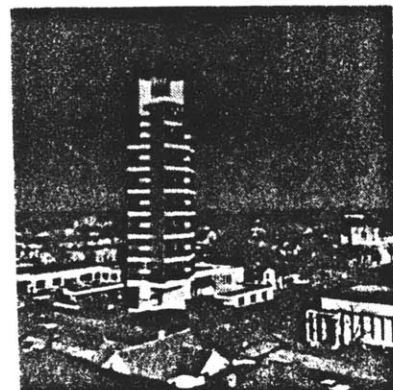
The volumetric formulation of Wright's skyscrapers proceed from the same apparent revelation:"The first expression of a treelike mast structure was in a project for St-Mark's-in-the-Bouwerie in 1929." The elevation of the Price Tower, very similar to the project for St-Mark's-in-the-Bouwerie, describes, in reality, a conscious process of subdivision of the vertical line which is compositive --beginning, middle, end-- and rhythmical. The continuity and the tenuity are in the juxtaposition of different serial elements in a progressive form of amendment.



In the plan, the proposition of three to one in favor of office space produces an exterior assymetry of continual surprises. Fire stairs and corewalls rise to a coronet of offices for the owner. Blue-green copper -inside and outside- counters the different blue of the sky. Copper fins further modify the light - vertical over apartment windows, horizontal elsewhere- ensuring in silhouette the vibrant dotted line Wright prefers.

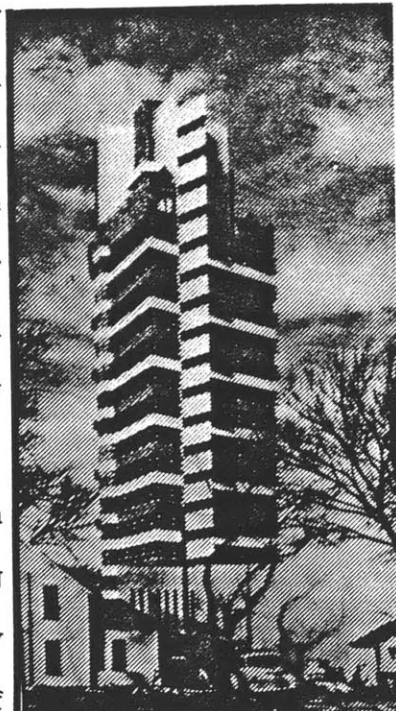
The identification of a tree for a skyscraper places Wright at a contradiction. The plan of St Mark's-in-the-Bouwerie is biaxially symmetrical. Therefore there are some apartments that are incorrectly exposed to the sun and to the wind. This is in contradiction with Wright's considerations "relative to human life" and to the site [16]. Wright will correct this error later in doing the Price Tower.

However the gap between the reality of his buildings and the post-justifications raising from different types of



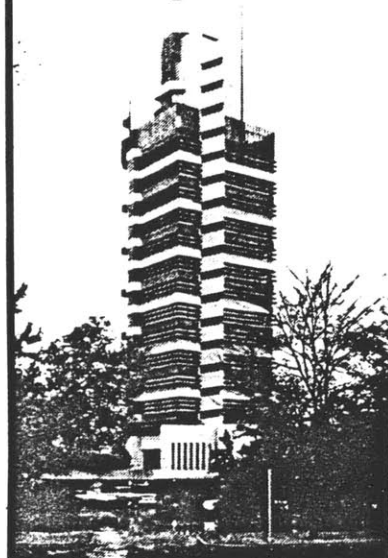
naturalness and of organicism are rather impossible to explain. For instance, in saying that "it is a logical development of the idea of a tall building in the age glass and steel [...] There is greater privacy, safety and beauty for human lives within it than is possible in any other type of apartment building" [17], he enters in contradiction with an assessment twenty years older considering his architectural propositions twenty years earlier: "Principle one: Kinship of building to ground [...]. As result, the new buildings were rational: low, swift and clean, [...]" [18].

So the concept that Wright termed "Organic Architecture" shifted from an approach to the design of buildings into an account of his personal experience. It gradually ceased to masquerade as an aesthetic method and offered itself frankly as a list of events --provoked or circumstantial-- and his answers to them. It is at the level of architectonic of the building that he maintained a coherence between his architecture and his ideas [19]: "In organic architecture,



The Price Tower, Bartlesville, Okla. 1956.

[from]
The presence of a skyscraper in a field hunt the small preexisting houses. Wright forgot that a vertical volume must correspond to an important horizontal territory.



the hard straight line breaks to the dotted line where stark necessity ends and thus allows appropriate rhythm to enter in order to leave suggestion to its proper values. This is modern".

The basic evolution of Sullivan's skyscrapers found in their simplicity as well as in their composition an emancipation in Wright's skyscrapers.

About the Wainwright Building, Wright wrote "As he (Sullivan) threw the 'stretch' on my desk with the first three bays outlined in pencil I sensed what had happened... Until Louis Sullivan showed the way, high buildings lacked unity. They were built in layers... All except one ...Root's Monadnock... a noble building"[20].

The research inside the space and on-site convinced Wright to go further: if the liberation works in the horizontal plane "why will it not work in the vertical plane? No one has looked through the box at the sky up there at the upper angle, have they? Why not? Because the box always had a cornice at the top (...)' This cornice was the feature that made



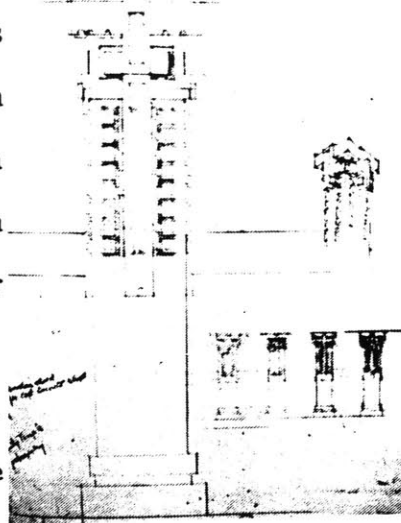
Civic Center for Los Angeles. 1926.

His project of a Civic Center for Los Angeles in 1926 is, in essence, the expression of the futuristic Sant'Elia utopia.

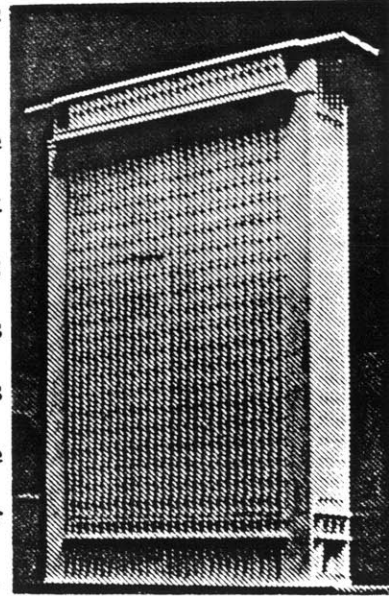
the conventional box classic."[21] In some way, the classicism of Sullivan was hated by Wright: he wanted an adaptation on site rather than a new definition of a general state or statement, even typically North American (at least after 1910).

"I am here seeking not for an individual or special solution, but for a true normal type,..." said Sullivan in The Tall Office Building Artistically Considered[22]. To him, culture consisted of the sum of instinctive means by which a nation sought the universal good. Sullivan considered that building types would come and go with the development of material progress, but his method of raising them to the dignity of art would remain forever unchanged.

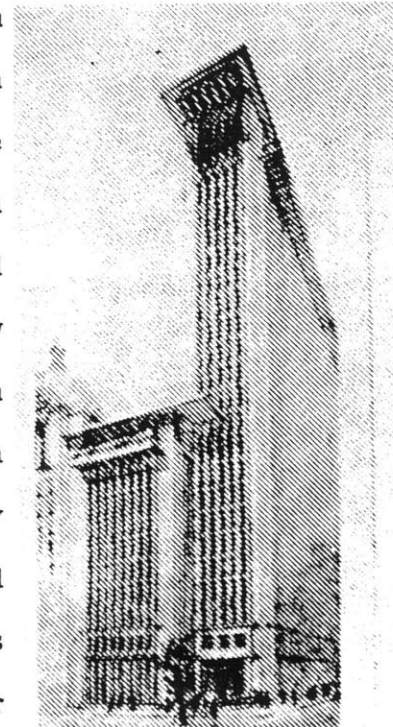
Sullivan was born at the dawn of an industrialized western civilization. Wright designed his last skyscrapers in 1952 at the beginning of the "third wave" which saw the birth of artificial intelligence, the holography, etc...time in which the Marina of Bertrand Goldbergh in Chicago could be considered in the



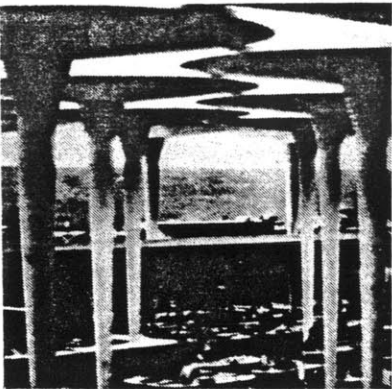
terms of Wright as innovative and organic as Wright pretended for the Price Tower. The tripartite classical division of the vertical composition of the Wainwright Building is yet present in Wright's 1912 skyscraper for San Francisco, the Press Building. But the edge of the building is already treated in an assymetry and the cornice is divided in two: one cantilever lateral is very important and another, frontal , two stories lower, much less important.



The progressive move and evolution from the Richardsonian skyscrapers of Sullivan to the utopic and semi-realistic mile high skyscraper of Wright pass through important steps rather clearly and exactly explained by Wright himself: "Now -to go on- for instance in the Johnson Building in Racine ,Wisconsin, you catch no sense of enclosure whatsoever at any angle. You are looking at the sky and feel the freedom of space. The columns are designed to stand up and take over the ceiling, the column is made a part of the ceiling: continuity. The whole boxing up of humanity by architecture has come

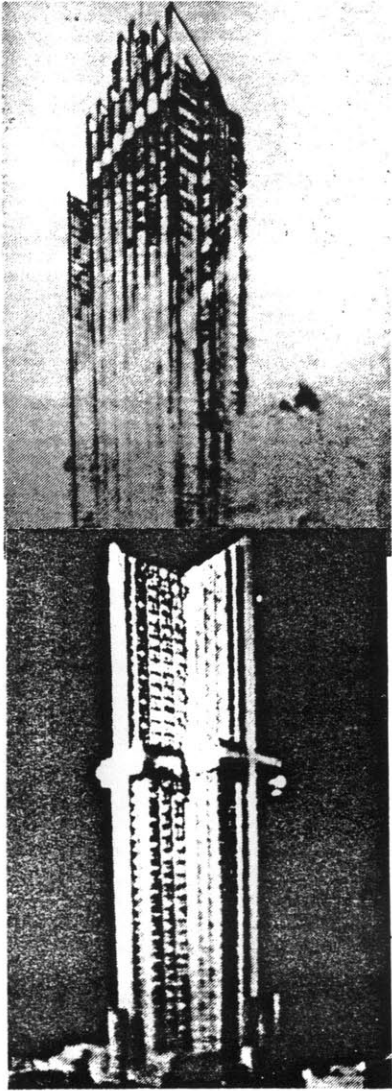


to an end.(...) My architecture began to have freedom, gradually and conservatively at first. I began to manifest this idea, first of all, with the corner window."[23].



At this point of evolution, Wright's skyscrapers are metaphoric expressions of the "one floor flowing into another" as Wright commented about his museum.

He proclaimed that tall buildings must be tall in feeling and at the same time earth-loving. These structures, the Golden Beacon, the H.C. Price Tower, the Johnson Wax Tower as well as his projects, the Mile High Sky City, the Fairmont Hotel (San Francisco, 1944), the Rogers Lacy Hotel Project (Dallas, 1946), the Mark Tower, and even the Catholic Cathedral (Los Angeles, 1931) were designed as solitary shafts of steel, concrete, metal and glass. They have in common a tension between a serial superposition of small horizontal lines and straight vertical lines. This tension is the precise hooking of the building to earth: a direct linear system which keeps together the top , the attic as well as

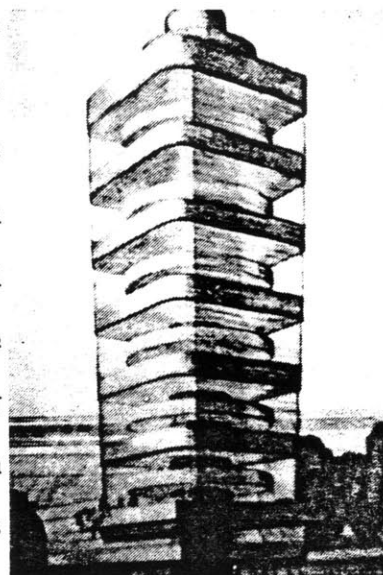


the multitude of intermediate parts , the floors, and trims them on the ground, as if they were going up and away. Wright's general plan for skyscraper construction was the use of a central reinforced concrete taproot, deeply embedded in the earth, with cantilever floors emanating from this central mast. The facade, then finished with copper, brick or glass panels was used decoratively rather than structurally. "Ornament is to architecture what efflorescence of a tree or plant is to its structure." [24]. These structures utilize the cantilever and reinforced concrete to create the body of the building with the exterior formed of materials complementing the locale.

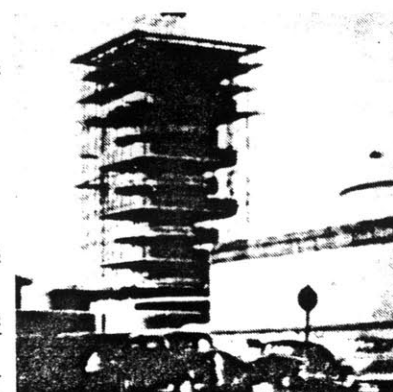
Continuity and discontinuity.

The real formal continuity of the two architects is also, but only apparently, testified by the consideration they made on the conditions of the skyscraper.

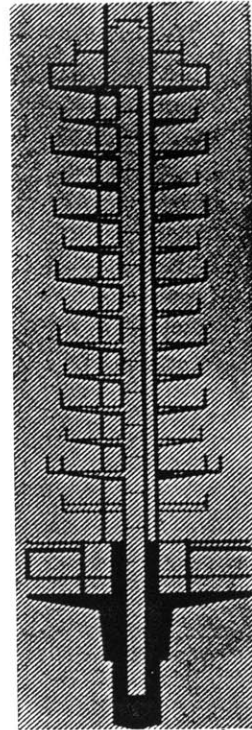
The ideas of Louis Sullivan about the skyscraper are clearly expressed in The Tall Office Building Artistically



The pillars of Wright are born on the first floor and go up without discontinuity to reach the roof. The height is punctuated, measured, scanned by the parapets of the floors, or ends in the infinite by two spheres on the top of the pilars at the front elevation of the Larking Building; ... Johnson Wax Building Laboratory Tower. 1950.



Considered (1896)[25]: "Let us state the conditions in the plainest manner. Briefly, they are these: offices are necessary for the transactions of business; the invention and the perfection of the high-speed elevators make vertical travel, that was once tedious and painful, now easy and comfortable; development of steel manufacture has shown the way to safe, rigid, economical constructions rising to a great height; continued growth of population in the great cities,



consequent congestion of centers and rise in value of ground, stimulate an increase in number of stories; these successfully piled one upon another, react on ground values -and so on, by action and reaction, interaction and inter-reaction. Thus has come about that form of lofty construction called the "modern office building." It has come in answer to a call, for in it a new grouping of social conditions has found a habitation and a name." The dotted line is also virtually perceived in section and offers the possibility of an easier reference position. "Now -to go on- for instance in the Johnson Building in Racine, Wisconsin, you catch no sense of enclosure whatever at any angle. You are looking at the sky and feel the freedom of space. The columns are designed to stand up and take over the ceiling, the column is made a part of the ceiling: continuity.

Wright in the Princeton Lectures in 1930 took this analysis as a point of departure, as an argument for the destruction of the city:"A man in a congested downtown New York street, not long ago, pointed to a vacant city lot where steam shovels were excavating. "I own it," he said, in answer to a question to a man next to him (the man happened to be me), "and I own it clear all the way up," making an upward gesture with his hand. Yes, there stood His Majesty, legal ownership. Not only was he legally free to sell his lucky lot in the landlord lottery to increase this congestion of his neighbors "all the way up," but he was blindly encouraged by the great city itself to do so, in favor of super-concentration.

Space-makers-for-rent say skyscrapers solve the problem of congestion, and might honestly add, create congestion, in order to solve it some more some other day, until it will probably all dissolve out into the country, as inevitable reaction."

As already said before, Wright had not a social conscience, but was a demagogue. However the remarkable clarity of his verbal proposition entered in contradiction with his projects for New York. He suffered from a disquieting duplicity of egomania and fitness. His megalomany destroyed completely an ideal, as probably had been the case for Le Corbusier. Le Corbusier's City of three million, where forty- thousand tenants are to be packed into "Vertical Villages" of "merciless grandiosity," seems a rural retreat compared to the Mile High Tower project by Wright, 528 stories high and inhabited by 130,000 people. In his literary description of the "tallest structure ever conceived...wiping out the hateful spread of the city" the tree was invoked once more, as was the taproot, "drilling into bedrock for inserting the spinal core...similar in principle to the foundation system that saved the structure of the Imperial Hotel in Tokyo in the 1922 tremblor."

His project of a Civic Center for Los Angeles in 1926 is, in essence, the

expression of the futuristic Sant'Elia utopia. Wright was not only megalomaniac but utilized his sensibility for an appropriation of the new ideas of his contemporaries; he wanted himself as a permanent and individual echo of the world that environed him.

Even with a project such as the Price Tower, his description and justification was going far away from a simple, modest and sober commentary: "Steel, the spider spinning, here serves the democratic individual's healthy aspiration with even more privacy and no less convenience than the ranch house in THE DUST." This sentence is a typical example of his assessment; demagogic and contradictory with other justifications; here it is about the Prairie House or more generally his consideration of the skyscrapers in a town. Moreover, he is found in complete contradiction with his idea of democracy: "Our national idea" [26].

New York.

The attitude Wright had about this city and its skyscrapers varies. Of course, he hated New York: "A place fit for banking and prostitution and not much else... a crime of crimes... a vast prison... triumph of the herd instinct... outgrown as overgrown... the greatest mouth in the world... humanity preying upon humanity... pig pile... carcass... parasite... fibrous tumor... incongruous mantrap of monstrous dimensions! Enormity devouring manhood confusing personality by frustration of individuality. Is this not the Antichrist? The Moloch that knows no God but more?"

But these considerations did not dissuade him from designing The National Life Insurance Company for Chicago in 1924 or a Cathedral for New York. Later when he built the Price Tower, he said how, "as trees crowded in the forest have no chance to become themselves (as they could if they stood alone) so the skyscraper needs to be freestanding to become a human asset." So becoming



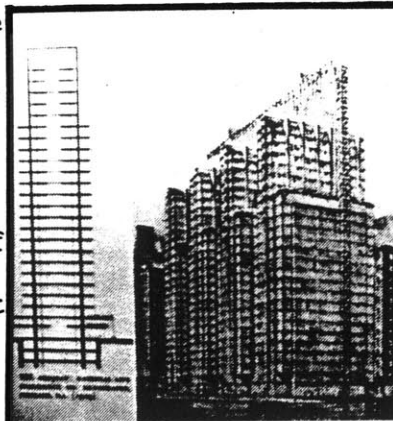
The National Life Insurance building was to have been erected on Water Tower Square in Chicago. Unlike most of the skyscrapers of this period, it was not a solid tower stepped at the top in conformity with the New York zoning law. The main block of the building was very thin and from this block wings projected out on one side with light courts between. There was no external skeleton at all, because of the cantilevered floors. "The vertical mullions (copper shells filled with non conducting material) are large and strong enough to carry from floor to floor and project much or little as shadow on the glass which may or may not be wanted. Much projection enriches the shadow. Less projection dispels the shadow and

"witness of this release of the skyscraper from slavery of commercial bandage to a human freedom."

His arguments based on the destruction of the forest are totally irrelevant considering his belief in Nature.

Moreover, he lies to himself when considering the fact that a single skyscraper in a small city is nothing more than the reduced exported model of a city like New York; although the difference of scale could be important for the citizens, the meaning is the same as is the presence of privileges.

Wright's project seemed more nearly a rite of exorcism. Wright's New York purification ceremony consisted of imposing a single monumental work derived from his own imagination. The degree and the nature of his desperation were reflected in the scale and content of his first significant design for New York: a "Steel Cathedral including Minor Cathedrals for a Million People."



translating the spirit of the Gothic structure from cut stone into metal and terracotta. His facades for such buildings as the Wainwright, the Trust and Savings Bank Project, and the Guaranty are reinterpretations of the interior elevation of a Gothic cathedral, with its gallery, in many instances, becoming Sullivan's important second floor.

To some extent, Wright's allegiance to the nineteenth century was overstated by his own attempt to portray himself as a Transcendentalist, using "Emersonian language to mask the plain bad manners of his personal quirks and professional quixotries" as explains Mushamps in Man about Town[27].

Superficially Sullivanesque, the approach was uniquely Wright's and in some way the opposite of Sullivan's. Sullivan was clear : "It is not my purpose to discuss the social conditions" [28]

Wright diverged from his mentor in theory, exalting the architect above the society he thought to express. The main theme of his book The Disappearing City (1932)[29] is the replacement of the obsolete central city by a more spiritually advanced alternative. The anticipation had been seen six years before with his project for the Cathedral. Taller than any building then standing in New York or anywhere else, almost as wide in plan as it was in elevation, the cathedral's implicit intention was to obliterate by its scale

whatever portions of the city had not been razed in the preparation of its site. As Wright's first design for an American urban public facility since Midway Gardens, the Cathedral showed the direction his progress had taken: now he would not attempt to reform urban culture from within but would blast it from without.

For Sullivan and Wright , the solution lay in polemical maneuvers that established the architect's right to create a poetic statement independent of the building's patron, or indeed of the very functions that a particular building might be commissioned to perform.

Sullivan brought to the task a vision no less heroic than Wright's, a will no less firm than Wright's would become. In his quest for an architectural principle "so broad as to admit of no exception", Sullivan tried to invest the meaning of an entire culture in the design of a single building.

If, as Lewis Mumford wrote, "Sullivan was the first American architect to think consciously of his relations with civilization," and if, as Wright supposed, the rebuilding of Chicago was nothing less than the moment of "critical necessity" by which man would see architecture revive, then Wright was entirely correct to regard Sullivan as an awakening of the modern soul, from Victor Hugo by way of Viollet-Le-Duc. Where once Wright had identified his own ambitions with the "Birth of Chicago skyscrapers", he now opposed himself to the even more impressive spectacle of New York. As an unemployed architect, Wright had little to lose by refusing to compromise with the most powerful architectural expression of his culture. And as a Romantic he had quite a bit to gain. In literature.

The line.

The argument of Muschamps [30] Wright's building after 1910 became more heavily ornamented,"the spatial clarity of the Prairie House became obscured by his pursuit of new forms to convey an

expanded sense of development" is only asserted by the wide-ranging repertory of forms (Maya and Navajo motifs, clunk orientalia, Sullivanesque vegetable variations, cubist images) but never in a more deeper analysis can these architectural expressions be considered as parts integrated in the architectural tissue.

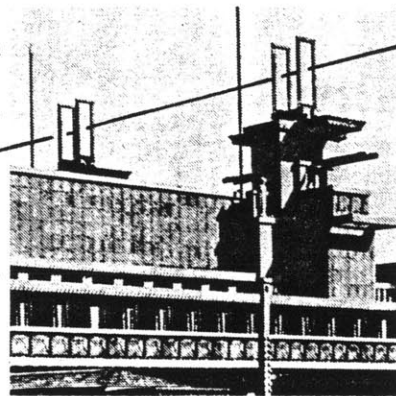
An analysis based on the effective treatment of the line reveals the constants as a product of the magnificent advice of Sullivan to Wright: "Take care of the terminal and the rest will take care of itself"[31]

Wright's apparent instability is described by his fundamental longing for exploration. This desire arose from his impossibility to sustain a conviction beyond a single performance. The world for him is a constant field of research, so vast that it never ends. Conscious of his exceptional capacity of design, he wanted more. In this is probably the birth of his incoherence between ideas and programatics.

Whatever his considerations about the form, at a lower level, made for the coherence of his forms. The text "Tenuity plus Continuity" [32] asserted how important is the line-task in the formal structure of his buildings: "Another principle in construction-I call it continuity- a property which may be seen as a new elastic,cohesive stability." The main idea is to get a principle for a new inspiration in design , for a new freedom. In "The New Architecture" [33], Wright found in the "quiet, intuitional, horizontal line (it will always be the line of human tenure on the earth)" a human interpretation suited to modern machine performance. Even if it seems fundamentally incoherent with the erection of his skyscrapers, this assessment explains the formal concept of his houses and puts the problem of continuity in relation to humanity and machines. Therefore the evolution of his architecture takes the form of new structural elements: "Instead of post and beam construction, the usual box building construction by way of the cantilever and continuity." [34] that is to say, an

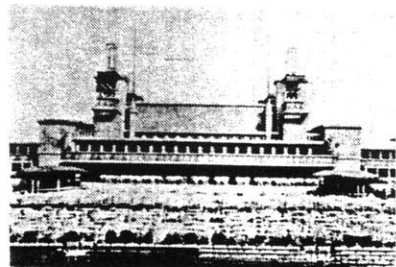
industrial structure and an architectural pattern. The first one, the industrial structure, appeared in his work after 1910; the second one, the architectural pattern, has always been present in his architecture. The archetype of the Prairie House, Robie House, and the archetype of his late work, Fallingwater demonstrate how the fluidity of space and the continuity of the cornice or the parapets are an intrinsic part of his design.

The line, here or there, never ends; and when it is ending somewhere, it goes inside another volume or another structure: it is born from the earth in the design for a kindergarten called "the little Dipper" on Olive Hill for Aline Barnsdall, denied by a dotted line the volume of the roof between two walls in the Hollyhock House, or ends in the infinite by two spheres on the top of the pilars at the front elevation of the Larking Building; another solution was to generate the infinite like the four chapiteau of the Midway Garden crowned by four rectangular arcs which offer a



Midway Gardens, 60th st. Chicago. 1914

[image from] was to generate the infinite like the four chapiteau of the Midway Garden crowned by four rectangular arcs which offer a direction for a linear and immaterial volume. Fairmont Hotel, San Francisco. 1944.



direction for a linear and immaterial volume. "In fine" in La Miniatura the formal structure is evidently made by the prominent vertical lines of concrete blocks. Every parcel of his architecture is structured by a line, from the window to his chairs, it is one direction, only one line which conducts the volume in its simplicity and in its continuity.

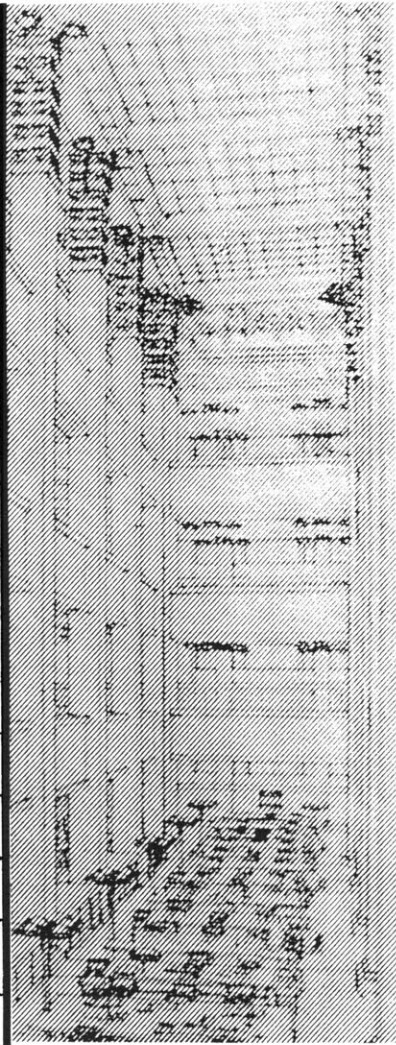
As it is proposed by Brunetti [35] Wright's space does not assume the meaning of a static element: it is the theater of events in continuity. "The inexorable law of transformation" [36] acts between the diverse parts of the edifice as well as between the edifice and the environment.

For Sullivan, the line is nothing else than a generator of space, and this because of his classical education: the line is used for surrounding a surface - maybe decorated-, or a hole. He pretended inspiring himself from the Gothic architecture but in fact has only taken the exterior aspect of the Gothic, which

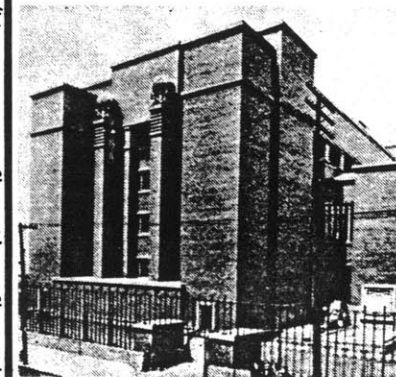
is, in essence, a progressive vertical subdivision, and not a tripartite division. The Gothic line has been a stylistic inspiration for Sullivan, but not at all structuralistic.

A useful comparison between the interior of the Transportation Building and the interior of the Larkin Building reveals the different solutions relative to the problem of serial columns intersected by floors. Sullivan was clearly inspired by the nave of a Gothic Cathedral. However the verticality of the columns was cut by a continuous cornice as a failed interpretation of a lateral nave. The power of European culture does not allow Sullivan the expression of verticality, obsessed as he was by the subdivision of the verticality per se.

The pillars of Wright are born on the first floor and go up without discontinuity to reach the roof. The height is punctuated, measured, scanned by the parapets of the floors.



Larkin Company Administration Building. 680 Seneca St. Buffalo NY. 1904.



The structure of the tree, which is evidently a chosen linear reference, is utilized more than usual by the two architects.

The different interpretations are not only coming from their experience, but also from their different philosophical

backgrounds explained here before. The consequences for the architectural pattern are that the tree, for Wright, has its roots in the ground as the columns of the Johnson Laboratory, and

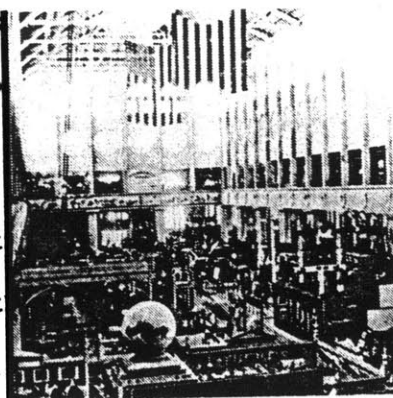
for Sullivan the roots are out of the ground: the precise difference between a romantic and a romantic-sentimental outlook.

Conclusion.

The relationship of these two architects to linearity is obviously different.

Both architects nevertheless directly used the tree as a metaphor for their building. For Sullivan, it initiates a natural tree partition of the built form.

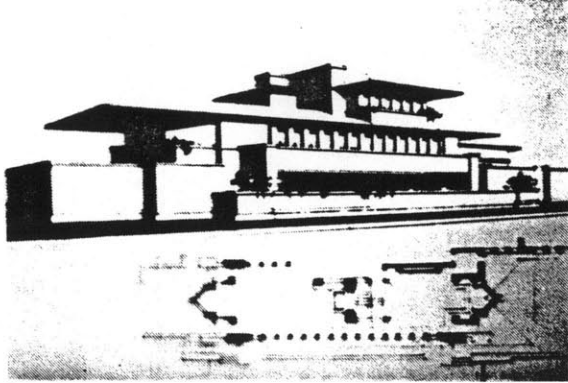
For Wright, it is a support for cultural interpretation and greatness of his architecture. More generally, Sullivan



The Transportation Building.

the verticality of the columns was cut by a continuous cornice as a failed interpretation of a lateral nave.

used lines in his design as a generator
whereas Wright used linear structures to
raise man to the level of the spirit.

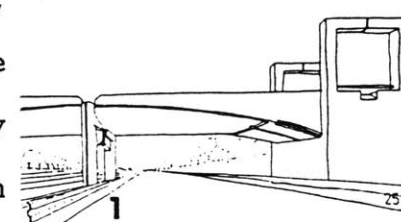
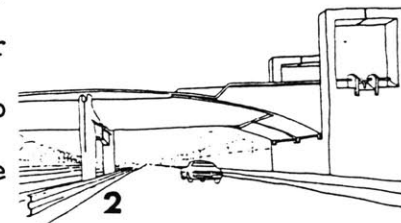
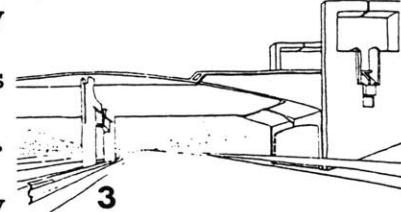
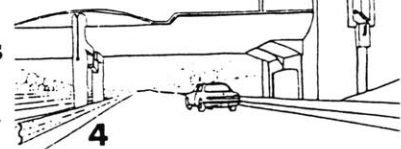


T.- HIGHWAY.

Wherein an appreciation of time and a reading of the trajectory informed a project.

This reflexion upon time and references might seem superficial and impracticable in the territory of architectural and urbanistic production. In the design of the highway Colmar-Mulhouse, I tried, nevertheless, to present this concept and propose a consistent solution.

This highway is used by different types of drivers. In terms of spatial references, they can be differentiated by those on a long journey, from Marseilles to Amsterdam for instance, to commuters. The seven overpasses could not in any way be of the same type of reference for these two groups. The proposition is to offer two frames of reference in the same form. For the long-distance traveller, these seven bridges have the same silhouette, which are hardly distinguishable from afar; they build in his mind a temporal reference at the



scale of his travel and at the possible level of perception of this travel in which it is impossible for him to see details but it is easy to count them, due to their limited number. Evolving details are inserted inside the silhouette in such a way that they develop different degrees of evolution (in fact for the very perceptible long-distance traveller, these forms will move, like the little Roumanian books that have animated the figures). The commuter might use these details as a reference point in his daily journey. He will not only count them, but probably take them as landmarks when used to distinguish one detail from the other: "where the piercement appears, where the column is bigger than the level of the road..." The complexity of these variations allows him to discover new combinations every day , as it is for a cathedral whose silhouette, viewed from far away, gives the locus and whose details, viewed from near, enriches the spirit and the knowledge of the past.

Contrary to numbers of a recent project of the same kind, where bridges are either individual monuments emphasizing a discontinuity, signifying a collection of heteroclitous objects more than the reason of existence of the road, or all the same, this project offers a continuous level of interpretation within an internal consistency.

U.- MOVIES.

Wherein we observe that linearity can support violence.

When popular culture is our referent, we can observe that the idea of violence has become so commonplace as to form a filmic fabric.

The idiosyncrasy screened by North American television series supported this thought. The viewer is only stimulated by the concomittant violence of the bullet and the repeated run-pursuit. Space supports the violence of the velocity apparently inducing death, but a virtual death on which the camera does not weigh.

* In "Point limit zero" the hero is the symbolic projectile of hope: he surpasses himself, he abstracts himself, not so much to challenge death with the forbidden speed, but to search for liberation through high velocity. The common expression of this liberation is the slow-motion movement of the car flying over rivers and other cars.

* In "Duel," the road pursuit arduously challenges gravity, in the laborious levitation of the vehicles climbing the mountain.

* Fellini's "Roma" proposes the traces of a tradition. He stopped the traffic and creates life in this traffic jam: as in "L'embouteillage" the road does not exist as a line, it is not any more a path, but a pretext to create a place, just when speed is annulated. Nothing works. This nothing is the hope of displacement. Only at this point, he said, social interaction is possible.

* Of course, even in the United States, Simon said to Simon "Check the strip", but the strip is still at this time the residue of a place like a square whose main characteristic remains a place of information ["Piazza Pulita" Christian Marion, 1983].

* In "Koyaaniskatsi" (music by Phillip Glass), the city's linearity is resumed in an uninterrupted movement of fluids shown by the accelerated shots. Humans and vehicles circulate as sausages in

factories. This trivial analogy reveals that linearity becomes only a mechanism. "The layout of roads shall accord with the type, volume and speed of traffic they will carry" said the ministry of Transport in England in 1966 (in "Roads in Urban Areas"). In the same way, the Department of Environment justified a zebra-crossing when $PV^2 \geq 100$ million where P is the number of pedestrians crossing the road in one hour, and V is the number of vehicles in the same amount of time [in "Roads in Urban Areas"].

The accuracy of this equation reinforces the blindness interpretation of linearity as a factor of movement that we observe in movies.

V.- DAEDALUS ALIGNED.

Wherein the written word devolved from space to intensified linearity: the process of writing no longer involves past and future.

The exploration of Japanese poetry shows in its content and its writing where a place is: the haiku:

I saw the first snow
That morning I forgot
To wash my face.

In its meaning, the the space is filled. It is whole, homogeneous, undetachable. Its translation has weakened it already, because it is impossible to comment the ideogram that composes it otherwise than with the metaphor and the syllogism (see Roland Barthes in L'empire des signes"): "Talking about the haiku would be purely and simply to repeat it." It composes a place, a genius locus, a strongly defined space on the page. It is not part of a collection. Its meaning itself enhances it above graphic typologies. Actually it cannot be translated by the collection of the alphabet letters, or if it is, it loses its spatial sense, its aesthetic.

Eventhough Japanese writings are being typewritten. But its graphic thought is not lost in the typewriter. The western typewriter "is quick to transform writing into a mercantile product; it pre-edits the text at the very moment one writes it; theirs, by its countless characters, no longer aligned in a single stitching row of letters but rolled on drums, refers to the ideographic marquetry scattered across the sheet --in a word, space; hence the machine extends, at least potentially, a true graphic art which would would no longer be the aesthetic labor of the solitary letter but the abolition of the sign, flung aslant, freehand, in all the directions of the page.

(Roland Barthes, "Empire of signs", Translated by Richard Howard, Hill and Wang, 1982).

These writings whether Japanese, Chinese, whether hierograph or Arab, are consistently different from Western writings.

Writing a line with a pen is an act of tracing a sign along a line. The thought

does not concentrate on the line, but is obliged to take the time to wander over it with the pen. The thought now is definitive: We say: "It's written." Yes, we can cross it out, but this also will remain. The thought is then asking a level of completion not necessary with the word processor.

The word is always entire in the hand writing. It can't be cut by the inadvertance of the word processor. If the word is important, the hand, sorry for the thought, will automatically show it, place it on the paper field. Where the hand writing is flexible and slow, the word processor, rapid and hyperaccurate, is immediatly a perfect finite product at any moment of the writing, and does not show the stage, the story, of the writing. This tool cannot think. Well, the pen does not either, but it allows possibilities of doing so in an extensible way. Not restricted by the alignment of the words, I can write two small words one under the other on an equilibrated waiting list. Where we know the material support of the hand writing, what is the real support of the word

processor? The screen? The key-board? The remote print-out? The diskette double-track? The electricity?

Whereas the hand writing is submitted to a complex interpretation of a simple tool, could we believe that the word-processor will allow the same richness of thought? Surely now, it restricts the thought to its final product in a linear way.

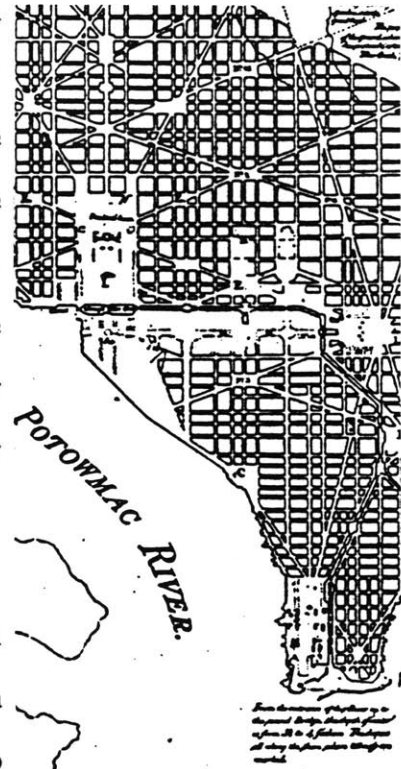
Writing, in these examples, seems to evolve from a notion of area to a notion of line. The computer line as a system, a mechanism, is a tool that collides with an impoverished place. It indifferentiates the space, annihilates any possibility of privilege (games with capitals, parenthesis and underlines become codes whose system belongs so intensively to the linear system that it could only be (perceived as) a systemic variation). It does not have, as for the Parisian boulevard, a place of concentration, of power. Rather, if this place has to be found, it is the beginning of the chapters, the locus of place such as the title still very conventionalized.

A computer line could be an analogue to a gridiron plan in its characteristics: expansionist, and indifferent to the topography (of the paper and pen, of the author in terms of his personal style). But the Chicago plan is far richer, due to its bidimensional aspect. A better similarity is reflected between computer lines and highways.

Why do we have this evolution?

It proceeds from an abstraction, a dematerialization similar to the urban utopias mentioned earlier. It gives to the writing a presence immediately accurate for the image of time mentioned above. The writing intrinsically possesses its absence, by virtue of the sudden disparition due to the current switching on and off. Psychoanalysts see the electric current as the representation of power. This power is immediate, instantaneous, ephemeral and temporal vowed to the switch. The current represents the ideal velocity: the speed of light.

This overlay of layers composing the writing might not be a perfect representation of the linear writing of



our environment. It insinuates and induces; nevertheless, its evolution is in a sense more probable as we compare the Japanese and the Western urban space in the way they are used.

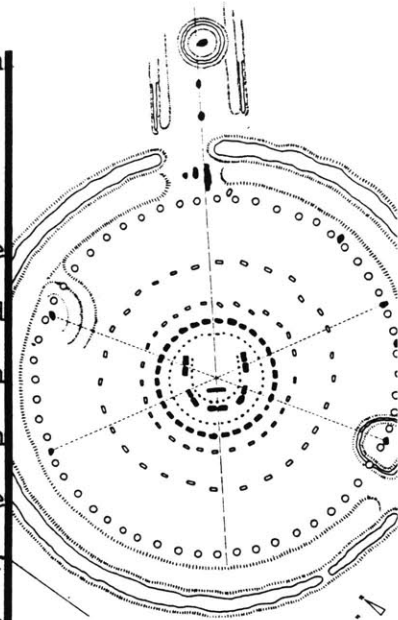
W.-WATCHING TIME...

Wherein man's representation of time can be tight to the twilight of the street.

In the nomadic period, as well as in the pre-agrarian period, time was regulated on the basis of external phenomenon such as the weather, and the daily apparition of the sun. The future was similar to the past and time was considered either somewhat cyclical or non-denied as an entity. Actually , as it is the case still nowadays in some contemporary villages in South Africa, whose spatiality is thematically circular, time is totally unconsidered as a linear phenomenon: when you ask "what happened before?," the answer relates to a story invented and signifies the non-importance of the past.

The sundial is a space that concretizes time, standing always at the same place.

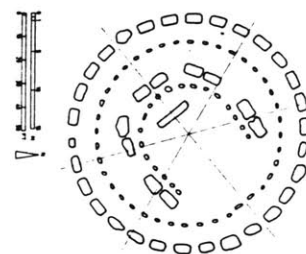
In a way, the space of time is a physical non-temporal space, a space that does not move, a space that shows and demonstrates the existence of time. But this time is still strongly related to external



Stonehenge megalithic complex.

The outer diameter of the peripheral ditch is about 125 m. At the top right is the beginning of an avenue 548 m long: the ditch and the holes just inside may go back to the middle of the third millenium. The central megalithic shrine dates from 1800-1500 B.C.

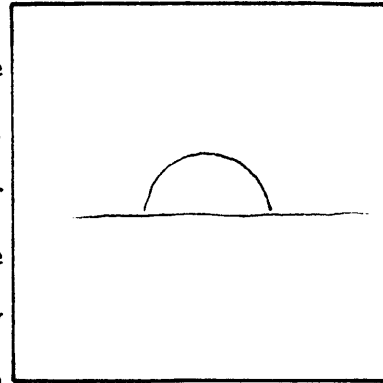
Detail of megalithic shrine.



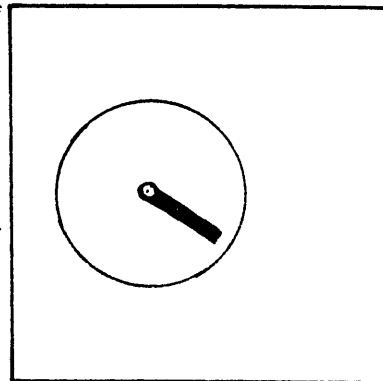
factors such as the shadow, the clouds and more generally the weather. The Torre del Mangia in piazza del Campo is in itself time and architectural form and by this bias governs the city. The city in itself is valorized by the presence of this immense sundial. This period of transition between the agrarian forms of civilization and the dawn of the mechanization generalized linear spaces in a collection of successive places and nodes. But these spaces were still strongly related to restrained social groups intimately linked in their daily life.

The clock encircles time in a more determined space. It takes the old circular form of the shadow trajectory to project it in an independent space and form that could fit anywhere. The representation of time is now an abstraction, but remains collective. At the advent of a long linear space marked by axuality, monument and its corresponding power, the clock became the center of the living-room. In a period in which society loses control of itself as

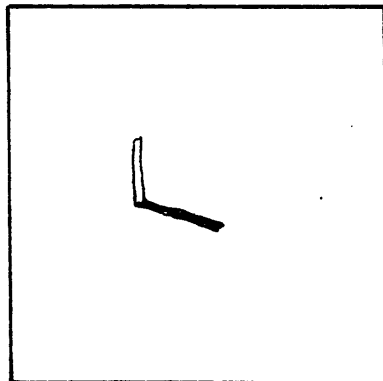
a whole, and becomes larger and larger, one can assist to the division of time distributed to families, clock by clock. There were no more spatial analogues for the representation of time, and the spatial necessity of the growing city instead of being unified under a common clock, is divided along the alignment of the street.



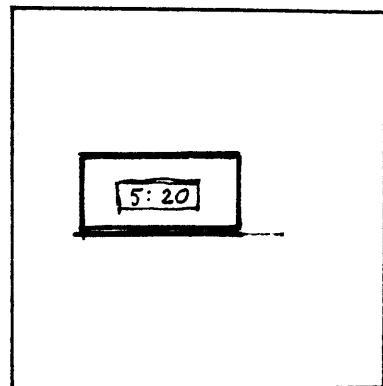
The watch is the perfect individual distribution of time. It is now rectangular and does not refer at all to the movement of time-shadow in space.



The digital watch displays a precise time and gives little sense of time structure and movement. Its form is indifferent. It only gives an overaccurate sense of present, but this present in the field of time cannot be anymore represented by contrast to the



past and future other than through a number that comes before or after. It is the myth of the (horary) precision, order and submission to this order. In the same way the space becomes abstract [see Simondon, "le monde des objets"], it is only representation and meaning, for its



own sake. The distribution of people along a street is also uniquely referenced with numbers. Spatial locus does not exist; in reality, the space of the street become a serial variation on the same typological basis, and spatial references become numbers that we can straightly relate to the digital numbers of the watch.

(Apparently, we could elaborate an analogy between the mechanical watch and the mechanical town, and the digital watch and the electronic town. Then, we would ask: "What is an electronic linearity?")

If the analogy in this story of time with urban history remains quite imperfect, it leads however to this text of Karsten Harries: [in Thoughts on a Non Arbitrary Architecture, Perspecta 20]

"We may know much more about history than ever before, but precisely in making the past an object of scientific investigation, the sense of belonging to the past is lost (...). Time has been reduced to a coordinate on which we move back and forth with equal facility: the

The Seiko quartz watch.



THE SEIKO PC DATAGRAPH
A wrist computer terminal
watch, plus software and
cable for data entry.

past tends to be a reservoir of material." Our architectural conception also looks to history to base its premises. The material is, however, only conceptual and never physical as it was during a good part of the first 15 centuries, in building Santa Sabina for instance.

All times have seen the expression of prestige concretized in space and form: monuments, palaces or writing. (broadcasting allows only temporary prestige)

The material of these forms were, for a long time, only punctual, such as for the Place des Vosges.

However, the deification in the temple of Hatshepsut, or in the Temple of Preneste, the imposing tower of the medieval castles and Ludwig II of Baviera's extravagance associated a punctual prestige to a possible distant perception: the straight line, line of view, became important. The physical means to show its presence in a city follows the same principle: to be everywhere means either being higher than

the others (as in San Gimignano), or propagating in urban corridors as for a highway, and the subway lines, that everybody, by budgetary dissuasion, would be obliged to take.

X.-TRENDS.

This text was an exploration without boundaries. It established metaphoric linkages between line and other notions rather than viewing these associations merely as logical assumptions.

For example, line is described as a means of dividing space without eliminating space itself, and line is also described as an annihilator of a geographical notion of space in favor of space measured by time. I did not want to present this material in logical formulations (e.g., assuming that we view line as an annihilator of space, then we are logically obliged to consider line as an action, a factor or a function, and not any more as a state, a place, a support). I am insisting upon a reality that is more complex, and more elusive than a logical thought.

Because a metaphor can be stated in absolute form, throughout this text, I have used formulations that may be too extreme for some readers to accept. An example of such a statement is "We know that distance does not count any more." A more precise and semi-quantitative way of

expressing this idea would be to say "We know that distance is becoming less and less important." I hope the reader will make allowance for this cultural and individual bias in my manner of expression.

SO WE LEARN that line is

- A reference for man.
- A necessary interpretation of the world.
- An apparition of prestige, order, control, distribution, separation.
- A form evolving towards space.
- A symbol of the future.
- An annihilator of space.
- A division of space and a reader of time.
- A geographical locus.
- Marked as opposed to rhythm.
- Represented and interpreted.
- Performing a support for violence
- Evolving in writing and in the representation of time towards a negation of space.
- A support to evasion, escape, instantatenity as opposed to matter for events.

We have shown the undivisibility of its diversity.

We understand now that its evolution through centuries leads to the disappearance of line as space: as far as "the interval is a measure of space" and "the interface a measure of time" [Paul Virilio, TA 364 fevrier-mars 1986]. Linearity becomes essentially an interface.

It disappears as space.

However, man needs space in the line and uses it.

In our daily path, the corridor of the shopping centers has replaced the via dei Condotti. Clearly, the view the visitor has of Copley Square cannot be the same that the farmer of la rue Haute. Even if not comparable, these paths observe a different interpretation of the world. We analysed how one is a consumption (that by itself involves movement and speed), and the other one is a physical statement (that involves a notion of sharing a place and expressing power).

We have seen that an attentive observer can perceive a linearity enriched. Our contemporary society may still have a pace rhythmmed by banana peels and towers, may still intend to talk in an elevator, may still hate to swallow miles.

We saw how Western countries displaces these intentions towards an incohercible violence of the speed.

But even if this culture is predominant in this text, its arbitrary division in two loci of observation assumes that man is a beast in search of meaning through rituals, new means of production, spatial markers and natural (surnatural) rhythms.

The dawn of the electronic era might apparently change this behaviour. In reality, my guess is that it can only sophisticate this search by the reduction of the dimensions of space. Isn't it after all what the line has already efficiently done to man?

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