

# La Défense: From Axial Hierarchy to Field Condition

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## ABSTRACT:

Paris La Défense, the largest dedicated business center in Europe, originated in utopian schemes of the early 20<sup>th</sup> century, and developed rapidly in the immediate post-war years. As corporate structures and the needs of office design shifted, however, the monumentality and utopian formalism of the 1950's master plan failed to accommodate the needs of capital. As the project developed in the 1970's, it shifted into an open and flexible field condition supported by intense networks of transportation, energy and information.

Using the writings of Shadrach Woods and Alison Smithson as references, the essay discusses the shift in design thinking that took place in the late 1960's, as the project evolved from a Beaux-Arts inspired sculptural composition to the open and flexible infrastructure that has allowed La Défense to continue its steady growth despite the recent economic downturn.

## INTRODUCTION:

In 1883 the City of Paris organized a sculpture competition to honor the glory of the soldiers who defended the capital during the Franco Prussian war, commissioning the statue "La Défense de Paris" by Louis Ernest Barrias. The statue was placed in the Place de la Demi Lune in Courbevoie left vacant after Minister of the Interior Gambetta had ordered the removal of Charles Marie Émile Seurre's statue of Napoleon I in 1870 to avoid its capture by the invading Prussian armies. In many ways the development of La Défense recapitulates the complex history of this statue. Beginning its life firmly gripped on the roundabout of the Place de la Demi-Lune at the center of a larger *Beaux Arts* composition, the statue of La Défense was removed in 1961 to make way for construction of what was to become the largest purpose-built office center in Europe. The statue was subsequently reinstated, floating on the smooth, highly serviced space of the *dalle* or pedestrian plaza as part of the new center's public art program. In just the same way, the planning of La Défense evolved from the precise, ordered composition of the 1964 plan to the open infrastructural matrix of the present day. (Fig. 1, 2)



1. The statue of La Defense de Paris framed by the formal geometry of the Rond Point de la Demi Lune, the future location of the development. In this 1954 photograph, the community of Nanterre is in the foreground, Courbevoie to the left, and Puteaux to the upper right. The Avenue de General de Gaulle stretches up to the left towards Paris



2. The statue now floats on the highly serviced surface of the *dalle*, or pedestrian deck.

## PREDECESSORS: Le Corbusier and the Rosenthal Competition

In 1929 the developer Leonard Rosenthal included Le Corbusier in a competition he organized for the land near the Porte Maillot surrounding the Place de la Demi-Lune, which would later become La Défense. Although the original renderings are lost, in Le Corbusier's sketches and notes for the competition we see him reworking the ideas that he had incorporated in his *Ville Contemporaine* of 1922 and published in his book *Urbanisme*, of 1925: Two high-rise office towers frame the view of the Arc de Triomphe down the Le Nôtre axis; in some drawings raised pedestrian plazas continue over the street, in others a bridge connects the plazas; reticulated mid-rise slabs, that Le Corbusier called *lotissements à redents*, frame the base of the towers, housing residential apartments or *immeubles villas*, "abandoning forever the corridor streets, instead opening up big landscaped surfaces in the city." (i) Describing the elevated plaza, which also provides a porte cochere for cars, Le Corbusier said

"We raise up above the ground, to . . . assure car access to the two skyscrapers, and provide access to the various stores and other commercial spaces, an esplanade of reinforced concrete, paved entirely in marble, that will contain magnificent public promenades, elegant cafes, overlooking the Bois de Boulogne and the landscape that we will create, surrounded by high modernist architecture, whose effect will be arresting both by day and by night." (ii) (Fig. 3, 4, 5)

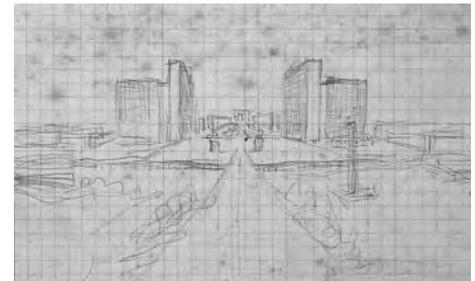
The scheme gives priority to the smooth flow of traffic,

"Roads are thought of like a network of rivers, with constant flow and without obstructions, on a regular and parallel course. Parking takes place in off-street garages, so as to never disturb the traffic on the streets. (iii)

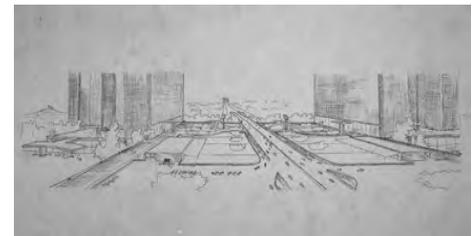
In addition to the main streets providing access to the center, Le Corbusier prophetically foresaw a new freeway leaving Paris passing underneath the *pilotis* that supported this promenade.



3. Le Corbusier, Aménagement de la Porte Maillot, plaza level plan, 1929



4. Le Corbusier, Aménagement de la Porte Maillot, sketch looking east, 1929



5. Le Corbusier, Aménagement de la Porte Maillot, perspective looking east, 1929

## BEGINNINGS OF POST-WAR DEVELOPMENT: CNIT and ESSO, early planning efforts and the creation of EPAD

Shortly after World War II, industry association president Emmanuel Poivreau conceived the CNIT building (Centre des Nouvelles Initiatives et des Tendances) as a showcase to celebrate French industry and technology. The building, designed by Robert Camelot, Jean De Mailly and Bernard Zehrffuss, with consultation by Pierluigi Nervi, was a triumph of structural engineering. The thin shell concrete structure spanning 220m, housing a vast exhibition hall, was completed in 1958. Built on grade adjacent to the Place de la Demi Lune roundabout, the exhibition hall encouraged the State to begin planning the development of the historic axis outside the City of Paris; at the opening of CNIT, General de Gaulle “gave the impression that this is one of the projects to which the government should give a symbolic value.” (iv)

In 1956, ESSO corporation, a subsidiary of Standard Oil (hence S. O. or “Esso”), the first company to see the value in consolidating its workforce outside the periphery, began construction of a new headquarters building, completed in 1959 on a site adjacent to the CNIT. (Fig. 6)

As pressure mounted for a coordinated development along the extension of the axis from Port Maillot, Camelot, de Mailly and Zehrffuss prepared a series of master plans for the area. Showing the influence of the contemporary discourse, the separation of pedestrian and vehicle circulation rapidly gained significance in their master plans. In the 1954 scheme, landscaped sidewalks front the Avenue General de Gaulle, giving access to retail stores. In the 1956 model, pedestrian circulation is still at grade, but has expanded to landscaped plazas. (Fig. 7, 8) The 1960 plan shows for the first time the breakthrough: a continuous pedestrian plaza runs almost the full 1.5 km distance from the Seine to the CNIT, branching out across the peripheral roadway to connect the outlying towers. (Fig. 9)

The late 1950’s were fertile years for multi-level urban infrastructure projects; cities in Europe and the United States undertook massive redevelopment projects: to accommodate the automobile with urban freeways and parking



6. Aerial photo from SE, approx. 1960, showing CNIT and ESSO



7. 1956 model detail

8. 1958 perspective



9. 1960 Master Plan; the dalle complete

structures, 'modernize' their civic centers, and house their burgeoning populations in housing estates and new towns.

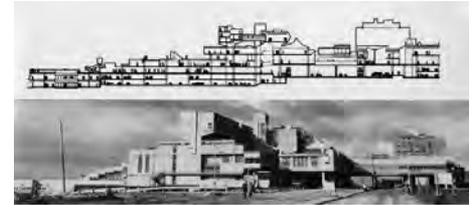
Two widely-published projects were particularly influential: the 1953 Boston Center complex proposed by Walter Gropius and the Architects' Collaborative with its pedestrian podium spanning over streets and subways, and Victor Gruen's 1956 plan for creating a pedestrian precinct in the center of Fort Worth, Texas. As Reyner Banham describes this latter project, "... it frames downtown in a necklace of freeways and parking-garages, the latter mostly under the edges of an extensive pedestrian level which provides a new 'artificial ground level' on which most of the 'Central Business District' is to be redeveloped." (v) (Fig. 11)

Between 1955 and 1960 Gordon Copcutt and his team at Cumbernauld New Town had already developed several schemes for a town center spanning over the motorway, with parking garages and a bus station buried under a shopping center, with housing above. **(Fig. 12)** The Smithsons' Berlin Hauptstadt competition entry of 1957, presented at the 1959 Otterlo meeting of Team X, proposed a raised pedestrian deck crossing over existing streets at mid-block, reaching down to the existing sidewalks with escalator banks; plazas at these intersection points provided space for cafés and outside dining. (Fig. 10)

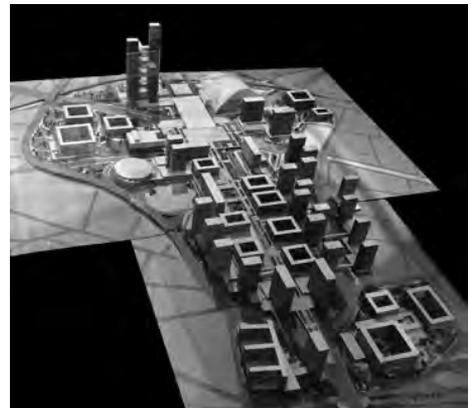
In 1958 the French State created EPAD (Établissement Public pour l'Aménagement de la Défense) to manage the development of La Défense, and retained Bernard Zehruss, Jean de Mailly and Robert Camelot, with urbanists Herbe and Auzelle, to prepare the first master plan, which was approved March 7, 1963, and implemented in 1964.

### THE 1964 MASTER PLAN: A Sculptural Arrangement of Masses in Space

The 1964 plan for La Défense proposed a *tabula rasa* approach to urban development, EPAD would purchase 760 ha in the communities of Courbevoie, Puteaux, and Nanterre; the existing fabric of small factories, artists' studios, restaurants and bars would be completely demolished. The only buildings to remain would be the CNIT and the ESSO headquarters office building. (Fig.14)



10, 11, 12. The Smithsons' 1956 Berlin Hauptstadt project, Victor Gruen's 1957 Fort Worth plan, and the 1960 Cumbernauld Town Center: early examples of vehicular separation



13. 1964 Master plan model view from east, showing theme tower and CNIT at back. Note the identical dimensions of the other office towers and the residential buildings

The 1964 massing plan shows the office buildings as high-rise towers, and the residential blocks as reticulated slabs, similar to Le Corbusier's design for the Leonard Rosenthal competition, and for the City for 3 Million of 1922. Residents all have access to large expanses of landscaped open area, or *tapis vert*, and urban space sweeps freely and uncontained round the isolated slabs and towers.

The 1964 plan also draws strongly on the Charter of Athens, adopted at the 1933 meeting of CIAM, the Congrès International d'Architecture Moderne, founded by Le Corbusier, Siegfried Giedion, and others, in 1928. As described by Le Corbusier in his 1943 publication, the Charter stressed that each function, inhabiting, working, recreation and circulation, must have its own autonomy. Circulation must be carefully designed for optimum efficiency using multiple levels. Dwellings must have minimum amounts of sunshine per day, should be separated from transportation routes, and should use tall buildings to free the ground for "verdant areas." (vi)

The 1964 plan shows the permitted building types: office towers of 25 floors and 75,000 sq. m., apartment buildings of 5 to 12 floors built around internal gardens, and one-and two-story commercial buildings along walkways and squares. The lowest buildings would be for commerce and social service, the mid-rise buildings would be a mix of public and private housing, and the high-rise towers would contain office space.

The massing plan shows consistent dimensions for all the buildings, each office building was required to have a footprint 24 x 42m and a height of 100m, except for the tower opposite CNIT, which was permitted to rise to 200m. Apartment sizes were fixed at 12.60m x 6.30m to create residential buildings of uniform width, with a height limit of 12 floors. The regularity of the tower bases and the uniform apartment size of gave the desired impression of classicism. (vii) (Figs. 13 & 15)

The plan as finally approved proposed a complete functional separation of infrastructural systems: pedestrian traffic on the plaza, buses and service vehicles on the level below; below that were parking, access driveways, and



14. The existing fabric in the communities of Courbevoie, Puteaux and Nanterre would be completely demolished



15. 1964 Master plan. Buildings in red are approved for construction



16. 1962 model shows the relationship of infrastructure and topography

the *A14 Autoroute de Normandie* leaving Paris for Mantes and Caen that Le Corbusier had foreseen. (Fig. 17) Rail traffic ran through further down. The plan took advantage of the topography of Chantecoq hill; the existing roundabout was 20m higher than the Seine, and the slope had a sharp crown at its mid point. By building a new 1.5 km long pedestrian deck sloping steadily up from the river, the architects were able to make room for a multi-modal transportation interchange and car parking under the deck at the top of the hill. Pedestrians circulated on a surface raised up above the surrounding neighborhood by an elevation difference of between two and four stories. (Fig. 16)

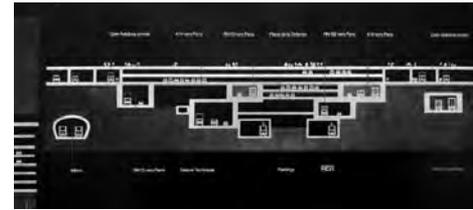
The massing plan was a sculptural composition, a rhythmic arrangement of identical objects in space, which relied for its success on careful control of the building locations, footprints and heights. Viewed from the historic axis, the CNIT and a new landmark office tower form a carefully balanced composition, framed by the subordinate office and residential buildings along the concourse. (Figs. 13, 20, 21) This was an approach that led back to the sculptural urbanism of the Bauhaus, Le Corbusier's competition entries for the League of Nations, and Costa, Niemeyer and Burle Marx's 1956-60 design for the Brazilian capital, Brasilia; it also looked forward to Le Corbusier's design for United Nations Plaza and the capital buildings at Chandigarh.

The symmetry and consistence of the plan also draws on the architects' work for the Prix de Rome, and the teaching of the *École Nationale Supérieure des Beaux Arts*, where all three architects studied in the 1920's.

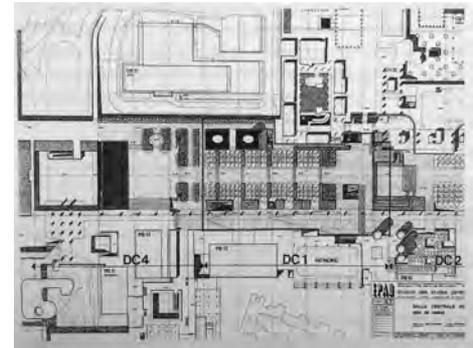
The landscape design, not realized in full until Dan Kiley's 1971 work, also emphasized the axial nature of the design. (Fig. 18)

### **THE BUILD-OUT OF THE 1964 PLAN:**

The Minister of Construction approved the massing plan in July, 1964; construction proceeded rapidly on a vast scale; aerial photos give some idea of the agony endured by the pioneering office workers in the new towers.



17. The section shows the complexity of the layered infrastructure



18. Dan Kiley's 1971 landscape plan emphasized the axial quality of the space



19. 1968 aerial photo from the east shows massive excavation around the RER station

Coming from the elegance of Haussman buildings in the city of Paris, they had to contend not only with the mud and noise of construction, but also with the unfamiliar environment of air conditioned high-rise buildings. A survey taken as late as 1977 found that only 17% of office workers thought they were better off for having made the move to La Defense, 52% felt definitely worse off. (viii) (Fig. 19, 20)

Construction was complete on the 28-floor Aquitaine Tower (now AIG) and the matching Nobel tower in 1965. The Europe, Aurore and Atlantic towers follow suite, all with identical 42m x24m footprints, 100m maximum height, and 30,000 sq. m. gross area. By early 1970's, three buildings were complete (ESSO, Aquitaine(now AIG), and Nobel, and four were under construction (EDF, Aurore, Atlantique, Europe). Septention (1972, now Europlaza), Assur (1974, now CB31), Manhattan 1 (1974) and Generale (1974, now Ariane) followed rapidly. (Fig. 20, 21)

In 1961, following the famous conversation in a helicopter over suburban Paris, in which President de Gaulle told Prefect of the Seine, Paul Delouvrier, to "clean up the crumbling *banlieux*," the state approved construction of the suburban electric rail system, the RER; La Défense station opened in 1970. By the early 1970's, the central plant was complete, 3,500 parking spaces had been built, and a station for the regional railroad system, SNCF, was complete.

#### **FLAWS IN THE MASTER PLAN BEGIN TO DEVELOP:**

By early 1969, despite the rapid progress on construction, EPAD was seen as not sensitive to the needs of investors; it was also still in deficit because of its vast infrastructure projects. The 60-story mixed use tower opposite CNIT was considered over-ambitious and had been abandoned. To cater to their needs, UAP (Union des Assurances Parisien) and GAN (Insurance) were demanding real skyscrapers with much larger floor plates than previously provided. UAP wanted to consolidate its activities at La Defense, but because of the limits on footprint and building height, EPAD could only give them two towers of 27,000 sq. m.



20. 1971 aerial photo shows the residential blocks of identical width arranged around green squares.



21. 1973 aerial photo from the northeast shows the matching Phase 1 office towers: Aurore, EDF, Aquitaine and Europe, with the Septention residential tower to the right, and the ESSO building behind.

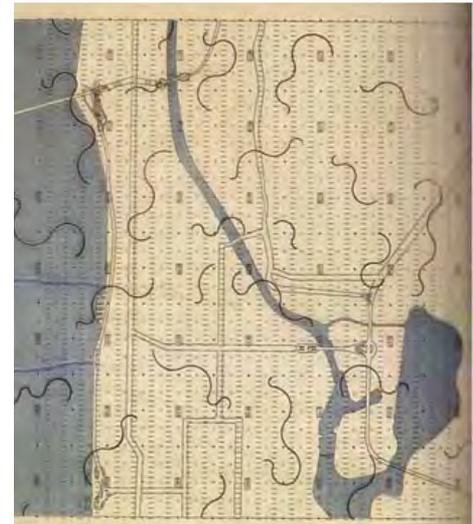
In May, 1969, the State, in the person of Albin Chalandon, Minister of Housing and Public Services, replaced André Prothin as head of EPAD with Jean Millier (1969-1977). Millier combined the roles of director with that of president, formally occupied by Georges Hutin. In contrast to Prothin's diplomacy and negotiating skill, Millier was a man of action; he was willing to ruffle a few feathers to get the job done. At the minister's direction, Millier was charged with revising the massing plan for La Defense without delay. (ix)

The 1964 massing plan was seen as not only inadequate in terms of the floor plates and heights of office buildings; its specificity concerning the sizes and locations of buildings was problematic. Its shortcomings called into question the very concept of a master plan. As Shadrach Woods said in a 1964 essay, the master plan is a "plastic or aesthetic arrangement that does not work in our mobile civilization. These . . . images are built to last 50 or 100 years, and in one tenth of that time the image is already out of date." (x) ". . . thinking of the city as an artifact, i.e.: as an architectural composition of volumes and spaces preconceived to correspond to a visual aesthetic. . . . has much in common with flower arrangement as practiced by the Japanese." (xi)

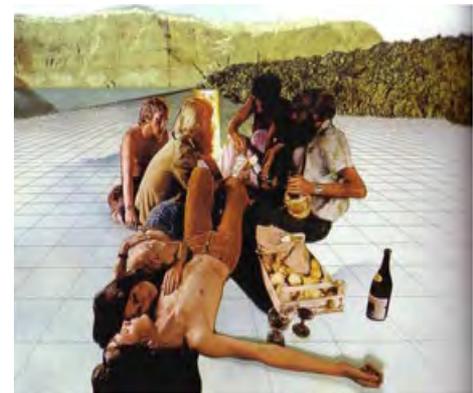
### THE MOVE TOWARDS OPEN SYSTEMS:

The roots of a move away from an experience of the city prescribed by design were already present in the 1950's and early 60's: in John Cage's 4'-33" of 1952, where ambient sounds swirled around the audience while the pianist sat at the piano without playing a note, in the dream-like urban experience that the Situationists enjoyed in their intoxicated derives, and in the continuous *ludique* surfaces that the Situationists proposed in their utopian projects.

In the sciences, a widespread fear of technology that followed the publication of Rachel Carson's 1962 book *Silent Spring*, and the terror of nuclear Armageddon that followed the Cuban Missile crisis of the same year, led to a disillusion with scientific determinism and a new interest in Heisenberg's Uncertainty Principle. For example, John Weeks of Llewellyn Davis Weeks and Bohr, in his design of the Northwick Park Hospital of 1962, acknowledged the influence of Heisenberg as



22. Archizoom, No-Stop City, 1969



23. Superstudio, *Il Monumento Continuo*, 1969

he grappled with the uncertainty and continuous change implicit in planning a regional hospital. (xii)

Jane Jacobs' book, *The Death and Life of Great American Cities*, first published in 1961, using the richness and vitality of Greenwich Village, New York as an example, argued that the complexity that had grown up in cities over time was indispensable for the vitality of the city and the safety and comfort of its occupants. This vitality been completely lost in newly-built redevelopment projects.

Two utopian projects by French and Dutch architects would certainly be known to French architects, Yona Friedman's 1958 Spatial City and Constant (Constant Nieuwenhuys)'s New Babylon. Friedman proposed a structure spanning over existing cities that allowed the occupants complete freedom of movement and action. (Fig. 24) In 1960, the Situationist, Constant, proposed a series of structures, giant space frames, which allowed free play for the new *homo ludens*: "a new skin that covers the earth and multiplies its living space. . . a quite chaotic arrangement of small and bigger spaces that are constantly mounted and dismounted by means of standardized mobile construction elements like walls, floors, and staircases. (xiii) (Fig. 25)

By 1969, this same *surface ludique*, as the zone of unlimited capitalist consumption, had become the object of ridicule in projects such as Superstudio's 1969 Continuous Monument, and Archizoom's "No-Stop City" of the same year. (Fig. 22, 23)

The idea of the city as a infrastructural system, allowing for unlimited change and reorganization, as opposed to a designed experience, achieved its most explicit architectural representation in Archigram's Plug-in City of 1964, in which moving cranes assemble modular units on a vast space frame infrastructure. (Fig. 26)

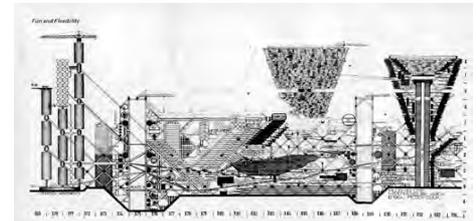
By 1956, some members of CIAM, had become disenchanted with the technocratic functionalism of the Charter of Athens; Georges Candilis, Shadrach



24. Yona Friedman, Spatial City, New York 1958



25. Constant, New Babylon, 1960



26. Archigram, Plug-In City, 1964

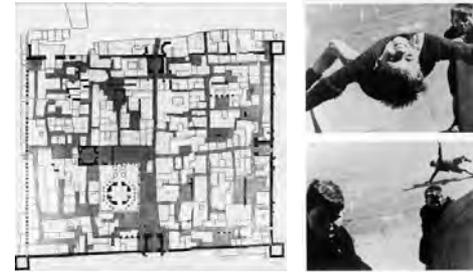
Woods and Aldo Van Eyck, influenced by the North African cities of Casablanca, Marrakesh and Algiers, and Alison and Peter Smithson, looking at the lively working-class streets of East London, sought out an architecture of *human association*, and a renewed emphasis on *habitat*, which led to their break with CIAM and the establishment of Team X, with Bakema and Giancarlo di Carlo in 1959. (Fig. 27, 28)

Many of the goals of Team X coalesced in the concept of the “mat-building,” which particularly interested Shadrach Woods and his Paris firm Candilis-Josic-Woods. Two key ideas drove them in their investigation: the inability of most master plans to evolve and accommodate growth at a time of rapid social and economic change, and a desire to emulate the diversity, density, and richness that they and other Team X members found in the traditional urban forms of Mediterranean and Arab towns.

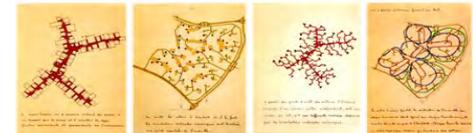
Candilis-Josic-Woods’ work evolved through the concept of the *stem*, which provided a framework for pedestrian circulation and building location in their Caen-Herouville housing, (Fig. 29) to the *web* in their competition entry for Frankfurt-Römerberg, their first real mat building. (Fig. 30, 31) At Frankfurt, a multi-storey mat-building with open courts fills a bombed site in the central city. Parking is located underground, and escalators connect all the levels. Woods’ goal, articulated in *Perspecta 12*, was the creation of an overall organizing system that accommodated not only the infrastructure required for growth and change, but also a framework for human association:

“whether they are stems or webs, their purpose is to organize a field . . . The chief characteristic of such devices is their intent of total organization, this meaning that they are not exclusively concerned with certain aspects of the problem, in contrast to circulation systems, for example, or hyper-sensitive space making.” (xiv)

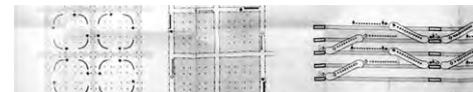
“This model describes the building not as a thing, but as a set of simultaneous abstracted systems layered to occupy and change a field.” (xv)



27, 28. The vibrant life of Mediterranean towns like Split, built inside a Roman walled city, and Nigel Henderson’s photographs of working-class London inspired Team 10 to study habitation



29. The stem was first used as the organizing principle at Candilis-Josic-Woods’ Caen-Herouville

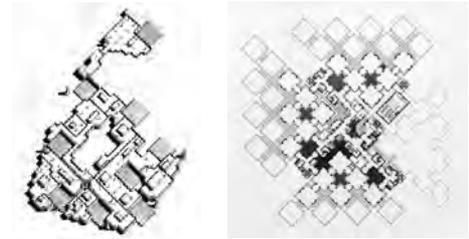


30, 31. In Candilis-Josic-Woods’ competition for Frankfurt-Römerberg, a multi-storey web or mat-building overlays the site

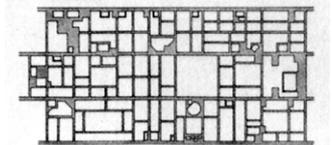
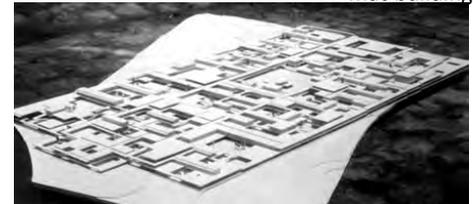
Alison Smithson enumerated the qualities of a mat-building in her essay “How to Recognize and Read Mat-Building,” published in 1974, (xvi) by which time a number of canonical mat buildings were already in place, such as Van Eyck’s Orphanage of 1957-60 (although he rejected the mat building moniker), the Smithsons’ Kuwait Ministries of 1970-72, Le Corbusier and Guillermo Jullian-le-Fuente’s Venice Hospital of 1964, and Herman Herzberger’s Centraal Beheer of 1967-72: (Figs. 32, 33, 34)

1. A shallow but dense section, activated by ramps and double-height voids, and a large open but protective roof, covering and uniting the whole
2. A site strategy that lets the city flow through the project, “the mat-building urge towards collective grouping,” as opposed to the isolated monumentality of, for example, the Boston City Hall.
3. A delicate interplay of repetition and variation, and the importance of a clearly discernable system that gives order to the whole. Given the discipline of a continuous system frame, functions may be articulated without the chaotic results which we obtain when we pursue only the articulation of function without first establishing a total order.
4. The incorporation of time as an active variable: the systems will be sufficiently flexible to permit growth and change within themselves throughout the course of their lives. (xvii)

One of the most famous examples of the mat building was Candilis-Josic-Woods’ Berlin Free University (BFU); (Figs. 35, 36) their winning competition entry of 1963 was a deliberate attempt to overcome the restrictions of the master-planned high rise campus with an open web, infilled with prefabricated modules that could be disassembled or recombined at will. The architects offered the BFU as a fragment of future urbanism. It avoided the specificity of functions and departments, creating instead a series of main and secondary streets along which program spaces could be arrayed at will, using a structure and



32, 33, 34. The Smithsons’ Kuwait Ministries of 1970-72, Herman Hertzberger’s Centraal Beheer, 1967-72, and Le Corbusier’s Venice Hospital, 1964 were important examples of mat-building



35, 36. Candilis-Josic-Woods Berlin Free University, completed in 1974, a prototype for an urban system of the future

skin designed by Jean Prouvé that accommodated growth and change. Making reference to historic examples such as Fourier's early 19<sup>th</sup> Century Phalanstery, design for human association was focused on a series of streets; as Manfred Schiedhelm, Woods' collaborator on the project described: "The street as a feeder for all the activities which make a city; a linear center around which the city could grow . . . as the only permanent element of the city." (xviii)

In the field of housing design, N. J., Habraken and the Stichting Architecten Research (SAR) investigated systems of supports that could allow residents to play a role in the evolution of their homes, while still being part of a larger infrastructure that answered to municipal requirements. Beginning in 1964, a team of nine architects developed and tested support systems and their ability to accommodate infill with detachable units. (xix)

The tectonic shifts in philosophy and politics of the late 60's reached a climax in the events of May 1968, which began in Paris and ignited student communities across the world. The experience of these events had a lasting effect on the young generation of architects and planners. (xx) (Fig. 37)

In architecture and urbanism, the uprising revealed new agencies of power in the users of buildings and the everyday inhabitants of the city. It also challenged conventional assumptions about the relation of program and building form; students turned streets into battlegrounds, university buildings into shanty towns, and street corners into parks, leading architects such as Bernard Tschumi to propose "dis-programming" and for Rem Koolhaas to state in his competition entry for Parc la Villette:

"Finally, we insist that at no time have we presumed to have produced a *designed* landscape. We have confined ourselves to devising a framework capable of absorbing an endless series of further meanings, extensions, or intentions, without entailing compromises, redundancies or contradictions." (xxi) (Fig. 38)



37. The events of May, 1968, temporarily shifted the power relationships in the city, and changed the perceived relationship between program and building form



38. OMA's 1982 entry for the Parc La Villette competition was a framework, not a designed landscape



39. The 1970 master plan abandoned the formalism of the 1964 plan

## THE EVOLUTION OF OPEN SYSTEMS SINCE THE 1970'S: The Field Condition

A quarter-century later, the new design philosophy embodied in the 1972 plan for La Défense, and in iconic work by Bernard Tschumi and Rem Koolhaas such as Parc la Villette and Euralille, found its theoretical manifestation in a 1999 text by Stan Allen. "Infrastructural Urbanism," is, as Allen says in an article of the same name, "the production of directed fields in which program, event and activity can play themselves out." It is part of material practice, which is "concerned with the large-scale behavior of large-scale assemblages over time, less concerned with what things look like and more concerned with what they can do." (xxii)

Allen discussed the quality of the field condition, and analyzed its formal structure in "From Object to Field" of 1996. The field, he said, is "a formal or spatial matrix capable of unifying diverse elements while respecting the identity of each." (xxiii) The field condition plays "close attention to the production of difference at local scale, even while maintaining a relative indifference to the form of the whole." (xxiv) "The field opposes conventional modernist rules of composition as much as it opposes classical rules of composition. The overall form emerges out of conditions established locally."

### THE IMPACT OF NEW DESIGN THINKING AT LA DEFENSE:

The changes in philosophy and design thinking of the late 1960's had a dramatic effect on the planning of La Défense. Millier's 1970 plan showed the complex as no longer a three-dimensional sculpture, a static object designed with a totalizing ocular vision. Instead, it appeared as an open system, an infrastructural framework, ready to receive modules containing the highly-serviced workplaces of the future, plugged into its global networks of transportation, power and communication. (Fig. 39)

The first move was to abandon the limits on building footprints. The new plan



40. In this 1973 photo, the core of the GAN tower dwarfs the surrounding buildings; the AXA tower rises in front of it



41. The scale of the GAN tower overshadows the Phase I towers

that EPAD proposed April 14, 1970 and the State approved November 8, 1972, called for increasing the buildable area for La Defense from 800,000 sq. m. to 1,550,000. The plan revised the maximum allowable size for an office building to 160,000 sq. m., permitting buildings of unlimited height. On February 26, 1970, the UAP building broke through 39 stories to exceed 159m in height; on August 25, the GAN building by architects Harrison & Abramovitz reached 187m. The FIAT (now AREVA) building by Skidmore Owings and Merrill, completed in 1974, leapt up to 200m. (xxv). (Fig. 40, 41)

### THE BUILD-OUT OF THE 1972 PLAN:

Almost as soon as EPAD completed the 1972 master plan, a series of economic and cultural crises battered La Defense and prevented the planning of any new buildings until 1978. The global economic downturn caused by the oil crises of 1971 and 73 brought to an end the *trente glorieuses*, France's almost thirty years of unbroken economic expansion since the end of WWII.

In the *querelle des tours*, (quarrel about the towers) the reaction to the rash of 1960's high-rise building in Paris, center-right party Minister of Economy and Finance Valerie Giscard d'Estaing, shocked at seeing the GAN tower emerge over the Arc de Triomphe in the view from his office at the Louvre, (Fig. 42) campaigned for the tower's demolition and a halt to further high-rise building. Construction on three towers was completed thanks to an intervention by President Pompidou, but Giscard d'Estaing rode to power as President of the Republic on the strength of his campaign. As a result, the 1977 law restricted building heights within the city of Paris to 27m in the inner *arrondissements*, and 37m in the outer. (xxvi)

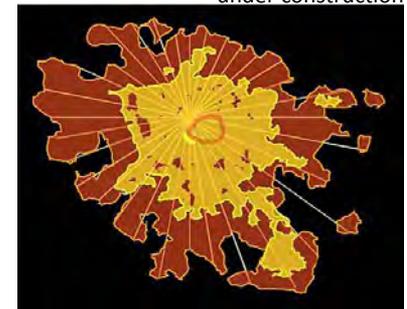
It was not until 1978 that La Defense resumed its growth on the new model, significantly with Citibank demanding an office building with large, flexible, highly serviced floor plates suitable for the new computerized office. Named Les Elysées La Défense, the seven-story building opened in 1982 on top of the Quatre Temps shopping center. (Fig. 43)



42. The GAN tower looms over the Arc de Triomphe, seen from the Louvre in 1973



43. This 1980 photo shows the Fiat tower by SOM behind the CNIT, AXA and GAN towers beyond. Les Elysees and Quatre Temps are under construction



44. Commuter catchment area of La Defense (in dark brown) vs. Boulogne and Issy, the next most populous employment areas

## LA DEFENSE TODAY:

With its completion in 1980, the *dalle* appeared as a continuous pedestrian plaza, linking all to networks of rail and road communication, flowing through porous building skins into building lobbies, and through the *Quatre Temps* shopping center, the largest in Europe when it opened in 1981. (Fig. 45)

From this highly-serviced urban surface rose a series of towers, the residential tower *Défense 2000* in 1974, *Manhattan* in 1975, followed by a number of new towers in the 1980's. With the completion of the RER infrastructure in 1970, the metro line 1 in 1992, and the tramway T2 in 1997, La Défense achieved its planned level of connectivity. (Fig. 46)

The qualities of the new La Défense are significant:

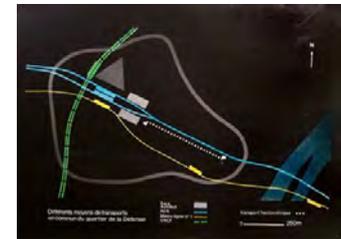
1. **Openness:** Development at La Défense is not hampered by architectural design constraints or by limits on height or floor area thanks to the 1972 removal of height restrictions and the increase in permissible gross floor area to 160,000 sq. m..
2. **Continuously Renewable:** The absence of architectural restrictions enables La Défense to renew itself continuously; buildings can be renovated, or demolished and replaced, as required by the market.
3. **Hyperconnectivity:** Four rail lines, 17 bus lines, a freeway, a tramline, and four *routes nationales* converge on the transportation hub beneath the plaza. 100,000 people travel to work there every day; nine out of every ten arrive by public transit. Parking for 10,000 cars is hidden under the deck. The Arc de Triomphe is only four minutes away by RER. La Défense is not just connected to the historic city of Paris, however, it also possesses a larger employee catchment area than any other business district in Paris. (Fig. 44, 47, 48)
4. **Global City:** Intimately connected to global networks of finance and information, La Défense has become a node in what Manuel Castells



45. The CNIT (left) and Quatre Temps (right) have grown to be regional shopping centers



46. The transportation and shopping concourse under the *dalle*.



47. The SNCF, RER, Metro and bus systems



48. The freeway, regional road, and service road systems

describes as the *Space of Flows*(xxvii). It is also a global city in the sense described by Saskia Sassen, in which, thanks to information systems, connections to other global cities have in many cases become stronger than links to adjacent communities (xxviii).

5. Mixed use: The retail center created by Quatre Temps and the renovated CNIT has become the largest in the region, creating pedestrian traffic seven days a week. The resident population of 20,000 provides La Défense with true 24-hour activity.
6. *Surface Ludique*: Thanks to generous public space, the *parvis*, the Grande Arche, and CNIT, La Défense is able to offer public concerts, exhibitions, and other events. The *parvis* formed the stage for a concert by Jean-Michel Jarre attended by two million people on Bastille Day, 1990. (Fig. 49)

## CONCLUSION: LA DÉFENSE TODAY IN RELATION TO OPEN SYSTEMS AND THE GOALS OF TEAM 10

The building organization today is a far cry from the carefully composed order of the 1964 plan. The overall effect is of a pressing crowd of heterogeneous elements, without the visual consistency of the 1964 plan or a classic Parisian boulevard (Fig. 50).

The organizational structure of the project today is very close to the idea of the *stem*, first proposed by Candilis Josic Woods for their Caen-Herouville project in 1961, as shown in the diagram (Fig. 51) compare with Fig. 29. The primary generators of pedestrian traffic are the suburban and regional rail stations just east of the Grande Arche and the bus station located close by under the Place de la Défense. From there the *dalle* runs 1.5 km to the Metro station at Esplanade de la Défense. Branches from this central spine lead to a network of secondary plazas and walkways, which provide access to the buildings. The *dalle* gives form and logic to the pattern, each of the branches is identified by a significant piece of public art, making it relatively easy to find one's way.



49. Jean-Michel Jarre performs in front of an audience of two million, July 1990



50. The project appears as crowd of heterogeneous elements



51. A system of stem and branches organizes the pedestrian movement at La Défense

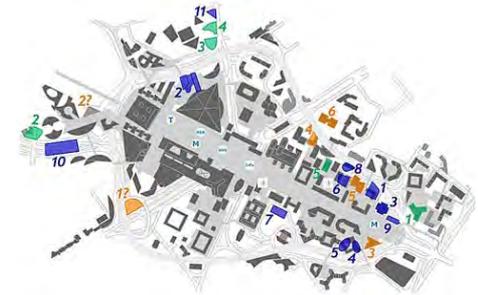
## 52. Plan and section of project area showing similarity to mat building

In places the project comes near to the ideal of the *mat-building* espoused by the Smithsons and by Candilis Josic Woods in their Frankfurt Romerberg and Berlin Free University Projects (BFU). For example in the area to the east of the CNIT, between the Quatre Temps and the transportation concourse, and around La Cupole (see Fig. 52), the project approaches the thick, flexible, multilevel section punched through with daylit open courts characteristic of the Frankfurt and BFU projects.

The goals established by the Smithsons and Team X for their mat-building projects of the mid 1960's provide a good yardstick for evaluating the success of La Défense: Does it accommodate growth and change in considering time as the fourth dimension? Does it indeed provide a space for *human association*? Does it indeed encourage *habitat*?

A measure of the project's success in accommodating change is its ability to accept the growth anticipated in the 2006 Master Plan, promoted by President Sarkozy, which envisaged the construction of 450,000 sq. m of new office space and 100,000 sq.m. of residential accommodation, all built to the French government's *Haute Qualite Environnementale*, the equivalent of the LEED standard. A new RER, line E, and tram line T1 were planned to meet the needs of the expanded population. A number of signature office buildings were projected as part of the plan: the Phare tower, designed by Morphosis, the Signal tower, designed by Jean Nouvel, the renovation of the AXA tower by Kohn Pederson Fox, (now under construction as the First Tower), the Air2 tower by Arquitectonica, the Carpe Diem tower by Robert A. M. Stern, the twin Hermitage towers by Foster & Partners, and three others. (Fig. 53)

Although the financial crisis of 2008 caused the suspension of many of these projects, the fact that they were considered possible can still be read as a testament to the flexibility of the 1972 plan. Significantly, the new towers were projected to be inserted into the matrix, within the already defined perimeter of the development, without expanding the area of La Défense. It is evidence of the suppleness of the 1972 plan that it could accept a 33% increase in floor area, thanks to the systems of public transit and pedestrian access.



53. 2006 Expansion Plan showing the Granite (2), Phare(2), Signal(2), Carpe Diem (4), Generali (1), and Majunga (7) towers, the First Tower (1) and GAN Tower renovations (3), the Societe Generale Trading Floor, (10) and the Meridien Hotel (9)



54. The *parvis* is strictly a space of movement, without any concessions for human occupation

As an environment for *habitation* and *human association*, however, La Défense still betrays its origins in the modernist tradition of functionality, efficiency and speed of movement. It has not made the transition to the post-industrial consumer world of seductive surfaces, vibrant stimulation, and irresistible atmosphere. It is not the *surface ludique* that encourages the *derive*. One has only to compare the public space of La Défense, without shade, shelter, or the stimulation provided by commerce and event spaces, with that of recent retail/entertainment complexes in the U.S. and Asia to see that La Défense is still stuck in the austerity and bleak functionality of early modernism. (Fig. 54, 55)

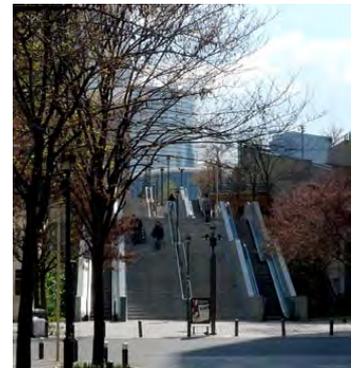
La Défense is also hampered by the tradition of functionalist zoning, which specifies that functions are restricted to certain areas, in contrast to the vibrant mixed-use spaces typical of traditional Parisian neighborhoods.. Restaurants and stores are only found in the Quatre Temps, the Cupole and the CNIT, although there is a high density of offices and residences all along the 1.5 km length of the *dalle*. The result is a long walk for a lunchtime sandwich, frequently in the rain or cold.

The *parvis*, with its calendar of regular public events, is certainly a surface of spectacle; it is so, however, only in the sense that Guy Debord describes a space created by capital and designed for its accumulation by multinational corporations. (xxix) (Fig. 49) It should not be confused with the Situationist concept of the space of free play and creativity dedicated to *homo ludens*, illustrated in Constant's New Babylon. Architecturally, the space displays exactly the sterility and monotony that the Situationists criticized in the new architecture of the 1960's, finding it lacking the 'subtle relationship of the discipline of form and the possibility of variety' that they loved in old Paris, (xxx)

La Défense functions well as an efficient space for the flow, manipulation and transformation of capital; it functions less well as a space of human association and imagination, criteria which many authors believe will become increasingly significant as creativity gains in importance over production in the 21st century information economy.



55. The austere space of the *parvis* in front of the Grande Arche is not a *surface ludique*.



56. It takes three flights of steps and escalators to get up to the *dalle* from the Rue Leonard de Vinci in Courbevoie . . .



57. Making La Défense more like Hans Hollein's Aircraft Carrier City than a mat-building

Looking at the other qualities of the *mat-building* defined by Alison Smithson, La Defense has difficulty in reaching out to the surrounding city; it does not immediately show what Smithson calls “the mat-building urge towards collective grouping, and firm but recessive compatibility.” (xxxii) The project connects to the surrounding city at a number of points, but because of the difference in elevation between the *dalle* and the neighborhoods, the transition involves many flights of steps, escalators, or even elevators, which are frequently out of service. (Fig. 56) La Défense still resembles Hans Hollein’s Aircraft Carrier City more closely than Candilis Josic Woods’ Frankfurt project, or the Smithsons Kuwait Ministries. (Fig. 57, compare with Fig. 30, 32) This condition is doubly paradoxical considering the growing economic importance of the Quatre Temps and CNIT as a retail centers for the surrounding communities, and the potential markets that exist all around.

In the dense and highly serviced structure of La Défense, the levels deep below the *dalle* have become abject and frightening heterotopias of service roads, truck docks and trash compactors. No daylight penetrates even to the bus station, where passengers wait in dark tunnels for their bus to arrive. (Fig. 59, 60)

Comparing La Défense with Haussmanian Paris, the difference of *grain* at pedestrian level is striking. Building surfaces lack the porosity and fine-grained texture that makes them attractive at human scale. 100m high metal and glass curtain walls plunge without a break into the surface of the *dalle*, next to popular pedestrian routes. (Fig. 61)

Most of the public spaces have serious environmental challenges. The *Parvis* is as big as the Cour Napoleon at the Louvre, and four times the size of Place Beaubourg, but it provides little shelter from sun, wind or rain. As a result of the tight clustering of tall towers and the vast scale of the open spaces, the up-drafts accelerate between the buildings, creating knives of cold winter air that slice and stab at pedestrians struggling to cross the *dalle*.



58. In the public areas the formal quality is of axes framing monumental buildings



59. The subterranean levels are abject and frightening heterotopias



60. Travelers wait in the dark tunnels for their bus to arrive

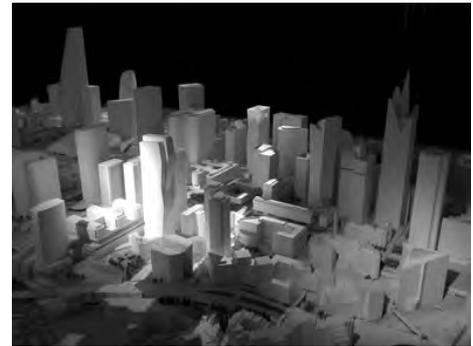
Considering the project as a field condition, there is no question that the primary public spaces still follow what George Wagner calls the “fixed representation of the monument – its ‘political functionalism’ and . . . the hierarchy which a monument imposes on the space of the city . . .”(xxxiv) (Fig. 58). Looking at the areas away from the main axis, however, what we see is literally a field of towers, in which form is generated not by a preconceived geometrical layout, but instead by part-to-part relationships determined by daylight, views, and the individual relationships of one individual tower against another. (Fig. 62) The result is what Stan Allen calls “a formal or spatial matrix capable of unifying diverse elements while respecting the identity of each,” (xxxii) paying “close attention to the production of difference at local scale, even while maintaining a relative indifference to the form of the whole” (xxxiii). It is a field, a flexible matrix capable of accommodating growth and change, “an architecture that leaves space for the uncertainty of the real.”

Paradoxically, La Défense is fulfilling Woods’s dream of the city as a four-dimensional infrastructure in a state of continuous change, while the Berlin Free University has become a static object, unchanged since its early days and recently restored as a historic monument. Propelled by the shifting demands of the business market and the political ambitions of the head of state, La Défense has seen new towers spring up, and older towers remodeled or demolished to make way for larger buildings, all the while resting on the substructure of services, transportation and utilities designed in 1960.

In cultural terms, however, the real revolution that the building accommodated was not the liberating utopia, the “pure untrammled expression of the creative imagination available to all” (xxxv) that Constant and the Situationists hoped for; it was rather the ability of capital to reinvent itself, shedding its emphasis on industrial mass production, developing new forms of flexible organization and appropriating instead the spaces of media, popular culture, fashion, and tourism as grist for its expanding universe of commodification. (xxxvi) The revolution that found its home at La Défense turned out to be a revolution in capitalism itself.



61. 100m high metal and glass curtain walls plunge into the *dalle* without a break



62. The 2006 Master Plan shows a field condition whose layout is determined more by local ‘part-to-part’ conditions of daylight and view, rather than an overall form or geometry

## NOTES:

(i) Le Corbusier letter to Leonhard (sic) Rosenthal, April 1930, Fondation Le Corbusier, document R3-1-315 p.2

(ii) ibid

(iii) Ibid

(iv) Lauras, Denedicte, « Genese et Étapes de l'Operation Urbaine de la Defense, » unpublished thesis, University of Paris X, Nanterre, 1973

(v) Banham, Reyner, *Megastructure, Urban Futures of the Recent Past*, New York, Harper & Rowe, 1976

(vi) Le Corbusier, *The Charter of Athens*, New York, Viking Press, 1973, originally published as *La Charte d'Athenes*, Paris, La Librerie Plon, 1943

(vii) COFER, Compagnie Française d'Etudes et de Réalisations, *Paris La Défense, Métropole Urbaine des Affaires*, Moniteur, 1989, p.52

(viii) ibid p.75

(ix) ibid

(x) Woods, Shadrach, "Stem" in *AD* No. 5, 1960, p.181, Quoted in Alexander Tzonis and Lianne Lefebvre, "Betond Monuments, Beyond Zip-a-Tone, Into Space/Time: Contextualizing Shadrach Woods's Berlin Free University, A Humanist Architecture, in Gabriel Feld et. al. eds., *Berlin Free University*, AA Exemplary Projects 3, London, 1999. (BFU) For an excellent discussion of the work of Candilis-Josic-Woods see also Tom Avermaete, *Another Modern, The Postwar Architecture and Urbanism of Candilis-Josic-Woods*, Rotterdam 2005, NAI Publishers

(xi) Woods, Shadrach, quoted in Wolf, Peter, "Time, Space, and Urbanism," *Art in America*, May 1966 p.38, quoted in BFU p.15

(xii) Hughes, Jonathan, "The Indeterminate Building" in Jonathan Hughes and Simon Sadler, eds., *The Non-Plan, Essays on Freedom, Participation and Change in Modern Architecture and Urbanism*, Oxford, 2000, p.96-97, quoted in Sarkis, op. cit., p. 83

(xiii) Wigley, Mark, *New Babylon*, Rotterdam, 010 Uitgeverij, 1999

(xiv) Woods Shadrach, "Waiting for Printout" previously published as "Techno-Sociological Hangup", *Perspecta 12*, 1969, p.10, quoted in George Wagner, "Looking Back Towards the Free University, Berlin, BFU, p.19.

(xv) Woods, Shadrach, ibid. p.20

(xvi) Smithson, Alison, "How to Recognize and Read Mat-Building, Mainstream Architecture as It Has Developed towards the Mat-Building," *Architectural Design* 1974, reprinted in Hashim Sarkis, ed., *Case: Le Corbusier's Venice Hospital*, Harvard/Prestel, 2001, p.90

(xvii) See Allen, Stan, “Matt Urbanism, the Thick 2D” in Sarkis, op. cit., p.121

(xviii) Schiedhelm, Manfred, “Architect’s Statement, the Berlin Free University Experience” in BFU, p. 97-8

(xix) see N. J. Habraken, Supports: An Alternative to Mass Housing, NY, Praeger, 1972, and N. J. Habraken et al., Variations: The Systematic Design of Supports, trans W. Wiewel, MIT Press, 1976

(xx) “France, and especially young French people, were being influenced by outside forces too. The Cultural Revolution in China, which was disastrously misinterpreted as a spontaneous revolt, rather than a murderous series of maneuvers designed to eradicate Mao’s opponents physically, and many of those close to Foucault believed themselves to be France’s Red Guards. An Anglo-American counter-culture of drugs and rock and roll was also having a huge impact upon a country that had yet to generate a rock culture of its own. The convergence of the counter culture and ultra-left politics gave birth to some very exotic groups, and few were more exotic than Vive la Révolution, whose main slogan was an eloquent expression of the feelings of many young people: “What do we want? . . . Eeverything.”” Macey, David, *Michel Foucault*, p.85.

(xxi) Koolhaas, Rem, et. al., *SMLXL*, New York, Monacelli, 1998, p.\_(Koolhaas italics)

(xxii) Allen, Stan, *Points and Lines: Diagrams and Projects for the City*, Princeton, 1999

(xxiii) Allen, Stan, “From Object to Field: Field Conditions in Architecture and Urbanism,” in Stan Allen, *Practice: Architecture Technique and Representation*, 2nd ed., Routledge, 2009, p.218

(xxiv) Ibid, p.231

(xxv) COFER, op. cit. p.73

(xxvi) For a discussion of the urban morphology of Greater Paris, see Panerai, Philippe, *Paris Métropole, Formes et Échelles du Grand Paris*, Paris, Editions de la Villette, 2008, p.98

(xxvii) Castells, Manuel, “The Space of Places and the Space of Flows”

(xxviii) Sassen, Saskia, “Global Cities”

(xxix) Debord, Guy, *The Society of the Spectacle*

(xxx) Sadler, Simon, *The Situationist City*, MIT Press, 1970, p.70

(xxxi) Smithson, Alison, in Sarkis, op. cit., p.92

(xxxii) Allen, Stan, “Object to Field,” p.220

(xxxiii) ibid. p.231

(xxxiv) Wagner, George, “Looking Backwards Towards the Free University Berlin” in BFU p.19

(xxxv) Sadler, op. cit.,

(xxxvi) See for example, Jameson, Frederic, *Postmodernism, or, The Cultural Logic of Late Capitalism*, Verso, 1991