ON THE CONCEPT OF "FIELD" IN ARCHITECTURAL THEORY AND PRACTICE

A THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES
OF
THE MIDDLE EAST TECHNICAL UNIVERSITY

BY

EMRE KUZLU

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE
OF
MASTER OF ARCHITECTURE
IN
THE DEPARTMENT OF ARCHITECTURE

JANUARY 2004

Approval of the Graduate School of Natural and Applied Sciences

_____

Prof. Dr. Canan Özgen
Director

I certify that this thesis satisfies all the requirements as a thesis for the degree of Master of Architecture.

_____

Assoc. Prof. Dr. Selahattin Önür
Head of Department

This is to certify that we have read this thesis and that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Architecture.

_____

Assoc. Prof. Dr. Emel Aközer
Supervisor

Examining Committee Members

Assoc. Prof. Dr. Emel Aközer _____

Assoc. Prof. Dr. Selahattin Onur _____

Asst. Prof. Dr. Berin Gür _____

Asst. Prof. Dr. Adnan Barlas _____

Inst. Dr. Namık Erkal _____

ABSTRACT

ON THE CONCEPT OF "FIELD" IN ARCHITECTURAL THEORY AND PRACTICE

Kuzlu, Emre

M. Arch., Department of Architecture

Supervisor: Assoc. Prof. Dr. Emel Aközer

January 2004, 98 Pages

This study aims at explaining the significance of the "field" concept in contemporary architecture and urbanism, in reference to the technical definitions of the term in different disciplines.

In this context, it investigates the concepts of "field" in physics, psychology, art theory and criticism. It highlights the reinterpretation of the "field" concept in physics by eminent Gestalt psychologists, and its consequences for architecture and urbanism.

Starting from the definitions of the concept of "field" by Kurt Koffka and Kurt Lewin, and from the Gestalt Theory that constitutes the basis of these definitions, it brings into discussion a group of related notions that have been employed in art and architectural theory and criticism: "psychophysical field," "psychological life space," "figure-ground," "figure-field," and "field-field."

Keywords: concept of field, field theory, Gestalt psychology, psychophysical field, psychological life space, figure-ground, figure-field, field-field

öz

MİMARLIK KURAMINDA VE PRATİĞİNDE "ALAN" KAVRAMI ÜZERİNE

Kuzlu, Emre

Yüksek Lisans, Mimarlık Bölümü

Tez Yöneticisi: Doç. Dr. Emel Aközer

Ocak 2004, 98 Sayfa

Bu çalışma çağdaş mimarlık ve şehircilik alanlarında "alan" kavramının önemini bu sözcüğün farklı disiplinlerdeki teknik tanımlarına referansla açıklamayı amaçlar.

Bu çerçevede, fizik, psikoloji, sanat, mimarlık ve şehircilik alanlarındaki "alan" kavramları ele alınmakta, ve özellikle Geştalt psikolojisinin önde gelen isimlerinin fizikteki "alan" kavramına getirdiği yorumun sanat ve mimarlık alanlarındaki sonuçları üzerinde durulmaktadır.

Kurt Koffka ve Kurt Lewin'in "alan" tanımlarından ve bu tanımların temellendiği Geştalt kuramından yola çıkarak, sanat ve mimarlık kuramı ve eleştirisinde önemli bir ter tutan "psikofiziksel alan," "psikolojik yaşam alanı," "figür-zemin," "figür-alan" ve "alan-alan" kavramları tartışılmaktadır.

Anahtar Kelimeler: alan kavramı, alan kuramı, Geştalt psikolojisi, psikofiziksel alan, psikolojik yaşam alanı, figür-zemin, figür-alan, alan-alan

ACKNOWLEDGEMENTS

First and foremost, I would like to express sincere appreciation to Assoc. Prof. Dr. Emel Aközer for her guidance and valuable contribution throughout this research. Besides, to all members of my family, I offer sincere thanks for their support. I am also grateful to all my friends who helped me with their support. And finally, I offer sincere thanks to Selcen Tuncer for her unshakable faith in me and her willingness to endure with me the vicissitudes of my endeavors.

TABLE OF CONTENTS

LIST OF FIGURES

6-d In Kurt Lewin, 1936, Trans. Fritz Heider and Grace M. Heider, *Principles of Topological Psychology,* New York: Mc Graw-Hill Book Company, p. 145.

7- In Colin Rowe, 1996, *As I Was Saying*, ed. by Alexander Caragonne, Cambridge, Mass., London, England: The MIT Press, p. 217.

8- In [Internet, WWW]. ADDRESS: http://www.accesscom.com/~darius/hacks/evoart/fields.jpg [Accessed: 30 November 2003].

9-a In Colin Rowe, 1996, *As I Was Saying*, ed. by Alexander Caragonne, Cambridge, Mass., London, England: The MIT Press, p. 183.

9-b Colin Rowe, 1996, *As I Was Saying*, Recollections and Miscellaneous Essays, Volume 3-Urbanistics, ed. by Alexander Caragonne, (Cambridge, Massachusetts, London, England: The MIT Press), p. 217.

10- In Colin Rowe, "Transparency: Literal and Phenomenal, Part II," in Alexander Caragonne (ed.), 1996, *As I was saying: Recollections and Miscellaneous Essays Volume 1,* (Cambridge, Massachusetts, London, England: MIT Press), p. 90.

11- In Stan Allen, Saul Ostrow, and Diana I. Agrest, 2000, *Practice: Architecture, Technique and Representation (Critical Voices in Art, Theory, and Culture),* Routledge, p. 157.

12- In [Internet, WWW]. ADDRESS: http://www.accesscom.com/~darius/hacks/evoart/moire.jpg [Accessed: 30 November 2003].

13-a In Colin Rowe, 1996, *As I Was Saying*, ed. by Alexander Caragonne, Cambridge, Mass., London, England: The MIT Press, p. 174.

13-b In Colin Rowe, 1996, *As I Was Saying*, ed. by Alexander Caragonne, Cambridge, Mass., London, England: The MIT Press, p. 172.

14-a In Colin Rowe, 1996, *As I Was Saying*, ed. by Alexander Caragonne, Cambridge, Mass., London, England: The MIT Press, p. 190.

14-b In Colin Rowe, 1996, *As I Was Saying*, ed. by Alexander Caragonne, Cambridge, Mass., London, England: The MIT Press, p. 193.

15- In Colin Rowe, 1996, *As I Was Saying*, ed. by Alexander Caragonne, Cambridge, Mass., London, England: The MIT Press, p. 197.

16-a In Fredo Durand, 1999, "Gestalt and Picture Organization," [Internet, WWW, PDF], *Available:* Available in .PDF format; ADDRESS: http://graphics.csail.mit.edu/~fredo/SIG02_ArtScience/siggraph_Gestalt_talk6.pdf [Accessed: 06 January 2003], p. 5.

16-b In Kurt Koffka, 1935, *Principles of Gestalt Psychology,* New York: Harcourt, Brace and World, Inc., p. 186.

17-a Figure-ground reading of Uffizi Palace: Urban void becomes the figure that lies upon the ground of the continuous solid.

17-b Figure-ground reading of Marseille Block: Solid object becomes the figure that lies upon the ground of the continuous void.

18-a In Colin Rowe and Fred Koetter, 1978, *Collage City*, Cambridge, Mass: MIT Press, p. 51.

18-b In Colin Rowe and Fred Koetter, 1978, *Collage City*, Cambridge, Mass: MIT Press, p. 51.

19-a In Colin Rowe and Fred Koetter, 1978, *Collage City*, Cambridge, Mass: MIT Press, p. 58.

19-b In [Internet, WWW]. ADDRESS: http://odin.let.rug.nl/~kastud/histor/college1a.html [Accessed: 29 November 2003].

19-c In Colin Rowe and Fred Koetter, 1978, *Collage City*, Cambridge, Mass: MIT Press, p. 61.

20-a In Colin Rowe and Fred Koetter, 1978, *Collage City*, Cambridge, Mass: MIT Press, p. 62.

20-b In Colin Rowe and Fred Koetter, 1978, *Collage City*, Cambridge, Mass: MIT Press, p. 63.

21- In Colin Rowe, 1996, *As I Was Saying*, Recollections and Miscellaneous Essays, Volume 3-Urbanistics, ed. by Alexander Caragonne, Massachusetts, London, England: The MIT Press, p. 205.

22-a In Colin Rowe and Fred Koetter, 1978, *Collage City*, Cambridge, Mass: MIT Press, p. 69.

22-b In Colin Rowe and Fred Koetter, 1978, *Collage City*, Cambridge, Mass: MIT Press, p. 69.

23-a Photograph from the personal archive of the author.

23-b Photograph from the personal archive of the author.

24-a Photograph from the personal archive of the author.

24-b Photograph by Selcen Tuncer.

25-a In Rem Koolhaas, 1991, *OMA,* ed. by Jacques Lucan, Princeton Architectural Press, New York, p. 116.

25-b In Rem Koolhaas, 1991, *OMA,* ed. by Jacques Lucan, Princeton Architectural Press, New York, p. 115.

26-a In [Internet, WWW]. ADDRESS: http://www.f-o-a.net/flash/ [Accessed: 02 January 2004].

26-b In [Internet, WWW]. ADDRESS: http://www.f-o-a.net/flash/ [Accessed: 02 January 2004].

27- In Timothy Hyde, 2002, *Le Corbusier, Venice Hospital,* ed. by Hashim Sarkis, Prestel, USA, p. 116.

28-a In [Internet, WWW]. ADDRESS: http://cca.qc.ca/prize/proposals/ru/fr5.htm [Accessed: 02 January 2004].

28-b In [Internet, WWW]. ADDRESS: http://cca.qc.ca/prize/proposals/ei/fr4.htm [Accessed: 02 January 2004].

CHAPTER 1

INTRODUCTION

Figure 1- Uffizi Palace, Florence.

For, if the Uffizi is Marseilles turned outside in, or if it is a jelly mould for the Unité, it is also void become figurative, active and positively charged; and while the effect of Marseilles is to endorse a private and atomized society, the Uffizi is much more completely a 'collective' structure. …, Vasari's model is sufficiently two-faced to be able to accommodate a good deal more. Urbanistically it is far more active. A central void-figure, stable and obviously planned with by way of entourage, an irregular back up which may be loose and responsive to close context. A stipulation of an ideal world and an engagement of empirical circumstance, the Uffizi may be seen as reconciling themes of self-conscious order and spontaneous randomness: and, while it accepts the existing, by then proclaiming the new the Uffizi confers value upon both new and old.[1]

[1] Colin Rowe and Fred Koetter, 1978, *Collage City* (Cambridge, Mass: MIT Press), p. 68.

Within the scope of this study, it is essential to mention the significance of Colin Rowe and Fred Koetter's analysis of the Uffizi Palace in Florence as a model of traditional urban texture, and a "collective structure" within the urban context.[2] We experience Uffizi as an open urban space clearly defined by the solid matrix, (Figure 1). This open public space gives the impression that the solid building mass extends continuously constituting the urban texture, forming the ground of the city. Within the figure-ground relationship of the traditional urban structure, the urban void of Uffizi becomes a figure, taking its strength from its ground –the continuous solid- and it becomes a place where there is a concentration and condensed interaction of contextual forces of the city. In other words, it becomes a focal point of close interaction between people and a collective social structure as an outcome of the contextual forces.

As Kurt Koffka states in *Principles of Gestalt Psychology*, figures can be defined as *loci* within a whole (Figure 2).

> Then if we have a small figure on a large ground it follows that the *density* of energy must be greater in the figure than in the ground, proportional to the ratio between the ground and the figure area. Therefore the figure would be defined by the greater density of energy, a definition which tallies well with experimentally proved figure characteristics.[3]

[2] Colin Rowe, "The Present Urban Predicament," ed. by Alexander Caragonne, 1996, *As I Was Saying*, *Recollections and Miscellaneous Essays Volume 3-Urbanistics* Cambridge, Massachusetts, London, England: The MIT Press, p. 208.
[3] Kurt Koffka, 1978, *Principles of Gestalt Psychology* (New York: Harcourt, Brace and World, Inc.), p. 193.

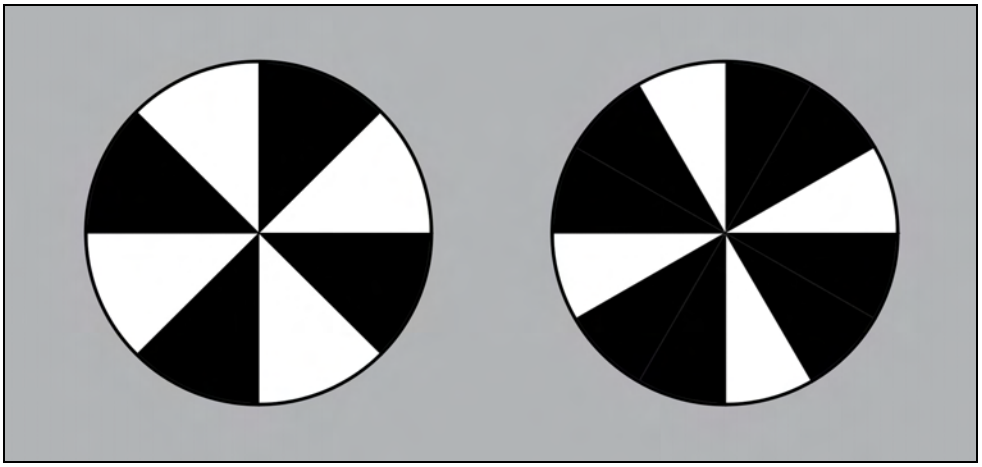


Figure 2- "Relatively the white cross is more easily seen on the right circle as a figure than in the left one. If the conditions are such as to produce segregation of a larger and a smaller unit, the smaller will become the figure; the larger, the ground."

The urban void that is defined by the Uffizi Palace is an example of concentration and interaction of the forces within a traditional urban structure. In other words, within the traditional urban structure of Florence, the buildings that constitute the Uffizi Palace act as a continuous ground or field within which an urban void emerges as a figure by serving as a point of attraction and concentration of the contextual forces of the city. As Koffka claims:

> It is clear that the smaller the area of the figured part in a constant field, the "greater its relative energy density with regard to the ground part. If the condition that the energy density in the former is greater than that in the latter is a necessary condition, then the smaller part must be the figure.[4]

Thus, whether solid or void, the places where such energy concentrates tend to be experienced as "figures" within the urban structure. Such a concentration is the concentration of urban dynamics at certain focal points within the city.

[4] Ibid., p. 193.

Koffka's definition of figure allows us to conceive the contemporary city itself in terms of figure ground relationships. Though Stan Allen distinguishes figure-ground organizations from field-field organizations, he still conceives the city as a heterogeneous, complex field of diverse forces, with "moments of intensity."[5] For him:

> One of the potentials of the field is to redefine the relation between figure and ground. If we think of the figure not as a demarcated object read against a stable field, but as an effect emerging from the field itself- as moments of intensity, as peaks or valleys within a continuous field-than it might be possible to imagine figure and field as more closely allied. What is intended here is a close attention to the production of difference at the local scale, even while maintaining a relative indifference to the form of the whole.[6]

Thus, within the urban field in the contemporary city, there are peak points, focal places, which are generated either by certain local differences of urban structure or by concentration of certain contextual forces of the city. However, as Allen states, such intensifications are not detached or isolated from the continuous urban field that is constituted by the complicated forces of the urban structure.[7] Rather, they are points of intensification within the urban field.

Field concept in current architectural practice and theory gives impetus and constitutes the problematic of this study. Within this framework, it is aimed to make a survey of the field concepts in physics, psychology, art, architecture and urbanism, and to elucidate them with reference to Gestalt theory and principles. The main concern of this research is to study and discuss the field concept in relation to the methods and tools of contemporary architecture and urbanism. Thus, the research points out the importance of the concepts of field for contemporary architecture and urbanism.

---

[5] Stan Allen, 1999, *Points and Lines: Diagrams and Projects for the City* (New York: Princeton Architectural Press), p. 97.
[6] Ibid., p. 97.
[7] Ibid., p. 97.

Actually, since the concepts of field have not originated from within the field of architecture, it is difficult to define them from an architectural viewpoint. In order to be able to understand these concepts in architecture and urbanism, it is essential first to refer to their definitions in physics. Departing from physics, this research studies the field concept in psychology with reference to Gestalt theory.

Colin Rowe's and Fred Koetter's analysis of urban structures based on Gestalt principles and figure-ground readings in their article *Crisis of the Object: Predicament of Texture* in *Collage City* (1978), is one of the primary sources of this study. Rowe's and Koetter's planimetric readings of two cases, which will be discussed in detail, allow us to compare the structures of traditional and modern cities. The significance of these readings of Rowe and Koetter is that, they refer explicitly to the field concept elucidated in Gestalt psychology. Since traditional, modern and contemporary cities are discussed, it is essential to mention what they mean within the scope of this research.

The research consists of different inquiries to the concept of field; initially, the study examines the definition of the concept of field with reference to its main source; "field theory" in physics. Beginning with the question whether matter can act at a distance, the evolution of the field concept is explored from its earlier definition in Greek philosophy till the modern field theory in physics. In the second part of the study, the Gestalt theory and its principles are studied in order to be able to discuss the field concept in the field of psychology. In this part of the research, Koffka's *Principles of Gestalt Psychology* (1935) and Kurt Lewin's *Principles of Topological Psychology* (1936) are key references. The field concept has been influential also in art theory and criticism. The third part of the research focuses on diverse examples of works of art with the aim of discussing the concept of field as it was borrowed from the field theory in physics and

elucidated in Gestalt psychology. In the fourth part of the research, in the light of the discussions on Gestalt principles within the field of psychology, the field concept in architecture and urbanism is discussed. As mentioned already, Rowe and Koetter's discussions on traditional and modern cities in their book *Collage City* (1978) is a key reference in this part of the research. Departing from the *Collage City,* the discussion is extended to the debates on the contemporary city. Stan Allen's book *Points and Lines: Diagrams and Projects for the City* (1999) is another key reference to be mentioned. Within this framework, the significance of the field concepts in current theory and practice of architecture and urbanism is emphasized.

This study puts a special emphasis on the elucidation of the field concept in Gestalt psychology. The examples introduced at the beginning of this part give clues about the significance of the field concept in Gestalt psychology, and they are further elaborated in the following parts of the research.

Dictionary Meanings of the Word "Field"

Main Entry: **field**[8]
Etymology: Middle English, from Old English *feld;* akin to Old High German *feld* field, Old English *flOr* floor -- more at FLOOR
Date: before 12th century
1 a (1) **:** an open land area free of woods and buildings (2) : an area of land marked by the presence of particular objects or features <dune *field*> b (1) : an area of cleared enclosed land used for cultivation or pasture <a *field* of wheat> (2) : land containing a natural resource (3) : AIRFIELD c : the place where a battle is fought; *also* **:** BATTLE d : a large unbroken expanse (as of ice)
2 a **:** an area or division of an activity **b : the sphere of practical operation outside a base (as a laboratory, office, or factory)** [9] <geologists working in the *field*> c : an area for military exercises or maneuvers d (1) **:** an area constructed, equipped, or marked for sports (2) **:** the portion of an indoor or outdoor sports area enclosed by the running track and on which field events

[8] Emphasis mine.
[9] Ibid.

are conducted (3) **:** any of the three sections of a baseball outfield <hits to all *fields*>
3 : a space on which something is drawn or projected[10]: as a : the space on the surface of a coin, medal, or seal that does not contain the design b **:** the ground of each division in a flag c : the whole surface of an escutcheon
4 : the individuals that make up all or part of the participants in a sports activity; *especially* **:** all participants with the exception of the favorite or the winner in a contest where more than two are entered
5 : the area visible through the lens of an optical instrument
6 a : a region or space in which a given effect (as magnetism) exists[11]
b : a region of embryonic tissue capable of a particular type of differentiation <a morphogenetic *field*>
7 : a set of mathematical elements that is subject to two binary operations the second of which is distributive relative to the first and that constitutes a commutative group under the first operation and also under the second if the zero or unit element under the first is omitted
8 : a complex of forces that serve as causative agents in human behavior[12]
9 : a series of drain tiles and an absorption area for septic-tank overflow
10 : a particular area (as of a record in a database) in which the same type of information is regularly recorded[13]

Since, it is aimed to make a survey of the field concepts in physics, psychology, art, architecture and urbanism within the scope of this study, it is essential to reveal the main sources and meanings of the word "field" and to present their uses in different contexts.

According to the field theory in physics, "field" is defined as "the area or space under the influence of, or within the range of, some agent; a state or situation in which a force is exerted on any objects of a particular kind (e.g. electric charges) that are present; the action of such a force; the value (or direction) at any point of the force on an object defined as having unit magnitude, or the set of the vectors that represent this force at each point in a region."[14] As it is further explained in the following chapter, "field" in physics has been a basic source of reference for various interpretations of the field concept in other disciplines. "Field" as it is employed in Gestalt psychology, is "a complex of forces that serve as causative agents in human

[10] Ibid.
[11] Ibid.
[12] Ibid.
[13] Merriam-Webster Online Dictionary, s.v. "field." [Internet, WWW], ADDRESS: http://www.m-w.com/cgi-bin/dictionary [Accessed: December 2003].
[14] Ibid.

behavior" or *field* is "an environment or situation regarded as a system of psychological forces with which an individual interacts."[15] Still another meaning of the word "field" is "the surface on which something is portrayed."[16] Similarly, in Gestalt psychology background is defined as the field that supports the figure and lifts it into prominence. It deserves to be mentioned that "field study" is used to denote "an investigation, study, etc., carried out in the natural environment of a given material, language, animal, etc., and not in the laboratory, study, or office."[17]

[15] Ibid.
[16] Ibid.
[17] Ibid.

CHAPTER 2

THE CONCEPT OF "FIELD" IN PHYSICS

In physics, the concept of field was introduced in order to clarify the question whether matter can act at a distance. It was in fact related with the concept of "action at a distance" in Greek philosophy.[18] It was first used in the 4th century BCE, in two influential philosophies of nature; those of the atomists and of Aristotle.[19] The field concept helped to explain the interaction of objects at a distance by invisible forces.[20] In other words, it was assumed that physical effects can be conveyed through empty space without any material or physical medium. As Mary B. Hesse states in her book, *Forces and Fields*; "a good way to introduce physical fields is by way of action at a distance, a problem that has historically puzzled philosophers and scientists and that has played a significant metaphysical role in the growth of scientific knowledge and field theories."[21]

In early versions of the field theory, the phenomenon of "action at a distance" was conceptualized in different ways. As Rudolf J. Rummel states in his article, *The Dynamic Psychological Field,* at first, "there was Plato's perspective that things moved relative to each other either because of their nature, some inherent force (what we now might call energy), or because of

---

[18] The Encyclopedia of Philosophy, 2nd Edition, s.v. "action at a distance and field theory."
[19] Ibid.
[20] Ibid.
[21] Mary B. Hesse, 1965, *Forces and Fields* (Totowa, N.J.: Littlefield, Adams & Co.), referred in [Internet, WWW], ADDRESS: http://www.hawaii.edu/powerkills/DPF.CHAP2.HTM [Accessed: 26 November 2003].

mutual attraction."[22] Secondly, he states that "there is the classic materialist answer: action at a distance occurs by material propagation... Action at a distance had to be materially propagated; it had to be a material push or pull."[23] According to the third perspective that Rummel points out, action at a distance is explained by referring to supernatural forces.[24] Rummel claims that down to the present day, these three perspectives have been dominating philosophical-scientific debates on the issue: "Now, Plato believed action at a distance was a sympathetic attraction between material things, the atomists and Aristotle saw action as only a physical push or pull, and some assumed divine or supernatural forces."[25] However, as he indicates, debates on "action at a distance" shifted from "theological answers" to "scientific questions" in the classical period:

> Descartes believed that "action at a distance" to be explained by "some material means of propagation... He explained gravity by a vortex, a motion of terrestrial matter toward the center of the earth, a pressing of things downward. Action was not propagated through distance, but was rather the result of matter in motion, a medium of subtle particles... A contrasting corpuscular view was held by Leibniz, who while believing also that action at a distance was to be explained mechanically, thought such action was caused by mutual contact and release of inherent activity, rather than by a vortex.[26]

Rummel states that, the modern view of physical field differs from the classical conceptions of "action at a distance." In modern physics the idea of a field shifts from "an auxiliary concept to be used for continuous matter, a concept chained to a mechanical carrier, to one of a potentially active energy pervading empty space, the region of continuous and vital forces."[27] Thus, the concept of field has evolved and transformed throughout history and it has

---

[22] Rudolph J. Rummel, 2002, "Understanding Conflict And War: Vol. 1: The Dynamic Psychological Field," [Internet, WWW], ADDRESS: http://www.hawaii.edu/powerkills/DPF.CHAP2.HTM [Accessed: 26 November 2003].
[23] Ibid.
[24] Ibid.
[25] Ibid.
[26] Ibid.
[27] Ibid.

reached its current state under the guidance of scientists like Boscovich, Faraday and Maxwell, (Figure 3).[28] Accordingly, Rummel explains field theory as follows:

> A field is *a condition* of space surrounding a body, and not localized as are mechanical bodies. Second, this condition of space is the seat energy. Energy is thus continuously spread through space by a *medium* we call a field. Action at a distance than can be understood as action in a field. Third, *field forces* comprise the activation of this energy. The building block perspective on matter as but bricks with which objects were constructed was replaced by a view of matter as being active, composed of patterns of energy and excitation. Fourth, the field became a mathematical construct connecting observable events. It was not directly measurable and could not be directly proven empirically; "field" cannot be operationally defined.[29]

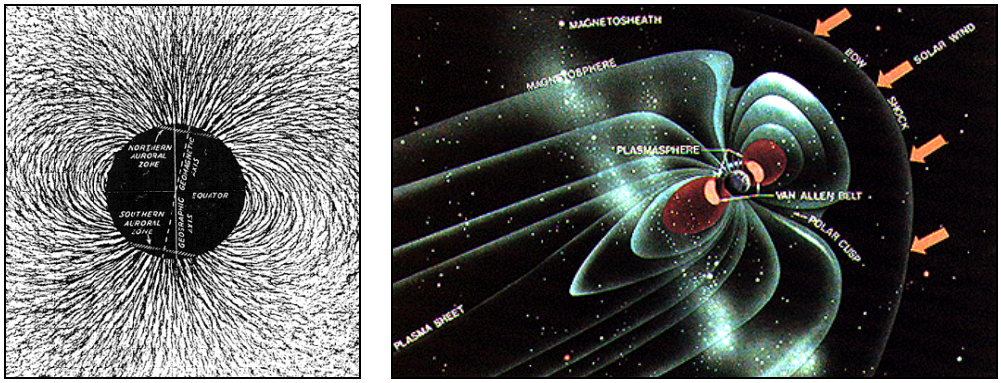


Figure 3 a, b- "Earth itself is a huge magnet that constitutes a magnetic field around it."

In a simpler explanation, every object in a field both modifies the field conditions and is modified by them. So every object in the field is active having the capacity to transform other objects and the conditions of the field. Furthermore, the objects in a field are not isolated; rather they are linked to each other, thus they form a whole that is inseparable from its parts.

> In a field description, rather than 'body A' directly exerting a force on 'body B', 'body A' (the source) creates a field in every direction around it and 'body B' (the detector) experiences the field that exists at its position. If a change

[28] Ibid.
[29] Ibid.

> occurs at the source, its effect propagates outward through the field at a constant speed and is felt at the detector only after a certain delay in time. The field is thus a kind of middleman for transmitting forces.[30]

It is also essential to mention the explanation of the field concept in physics from the standpoint of a Gestalt psychologist, Koffka, who refers to field theory in physics while interpreting the concept of field into psychology. Koffka figures out the distinction between molar and molecular behaviors of a person in order to explain the role of the behavior in determining the field properties. He explains the molar behavior as "occurrences in our everyday world which the layman calls the behavior," and the molecular behavior as "the process which starts within an excitation on the sensory surface of an animal, is conducted by nerve fibres to nerve centers, switched over a new, efferent nerves, and ends in a muscle contraction or a gland secretion."[31] As the molar behavior is an external event that results from interaction of the individual with his/her environment, the molecular behavior is defined as a physiological event that takes place within the organism. For Koffka the field theory can be applied to psychology that he defines as the science of molar behavior. Thus, for him, it is essential to deal with the field theory, since the molar behavior is involved with the interaction of an individual with his/her environment which can be defined according to its field properties.

Koffka starts by questioning "how Newton explained the motion of bodies."[32] He states that "according to Newton, every change of motion is due to a force which arises through impact or by attraction."[33] As mentioned by Koffka, after Newton discovered the law of gravitation, which he gave a quantitative formula of force, "the laws of magnetic and electric attraction and

---

[30] The Columbia Encyclopedia, 6th Edition, s.v. "field, in physics."
[31] Kurt Koffka, 1935, *Principles of Gestalt Psychology* (New York: Harcourt, Brace and World, Inc.), p. 25-26.
[32] Ibid., p. 41.
[33] Ibid., p. 41.

repulsion were discovered and proved to be quantitatively identical with Newton's law of gravitation and interpreted as action at a distance."[34] At this point, Koffka mentions the discoveries of Michael Faraday and Clerk Maxwell which are significant in the development of the modern field theory. As stated by Koffka, "(Faraday) excluded all action at a distance in his experiments and explained electric attraction and repulsion of two bodies by processes occurring in the medium between them, the dialectic, propagated in two from place to place," and Maxwell, who elaborated the ideas of Faraday, "introduced the more general terms: electric and magnetic field, as the carriers of forces, and who was able to deduce the velocity of the propagation of electric and magnetic forces, which in empty space proved to be identical with the velocity of light."[35] Moreover, Einstein, with his theory of gravitation filled the gaps; that is, action at a distance disappeared from the theory of gravitation just as it had disappeared before from theory of electromagnetism, and the field theory was reduced to a single formula which is explained by Koffka as follows; "empty space as mere geometrical nothingness vanished from physics, being replaced by a definitely distributed system of strains and stresses, gravitational and electromagnetic, which determines the very geometry of space."[36] Koffka borrows this concept of field from physics and applies it into psychology. For him, "the distribution of strains and stresses in a given environment will determine what a body of a given constitution will do in that environment."[37]

[34] Ibid., p. 41.
[35] Ibid., pp. 41-42.
[36] Ibid., p. 42.
[37] Ibid., p. 42.

CHAPTER 3

THE CONCEPT OF FIELD IN GESTALT PSYCHOLOGY

As it has already been pointed out, following the advent of the field theory in physics, the concept of field comes into discussion also in the field of psychology within the frame of Gestalt theory. In this study I refer to, Koffka's *Principles of Gestalt Psychology* and Lewin's *Principles of Topological Psychology* as the main references while discussing the field concept within the frame of Gestalt psychology. I will not enter the details of Koffka's and Lewin's field theories, since it requires a background in psychology. I will just note their main elements that seem relevant within the scope of this study.

Gestalt in Psychology

In order to understand the relevance of the field concept as it is defined by the propounders of Gestalt psychology, it is necessary to highlight the significance of this school in the field of psychology. As Mitchell Ash states in his book, *Gestalt psychology in German culture 1890-1967*, by the early 20th century, "long-accepted discursive norms derived from mechanical physics and empiricist epistemology appeared inadequate either to deal with important facts about mind, particularly facts of aesthetic experience or to

sustain claims to cultural authority."[38] He says that the three prominent "experimenting psychologists," namely, Max Wertheimer, Koffka, and Wolfgang Köhler "responded to this challenge with a radical construction of psychological thinking intended to satisfy the requirements of both science and philosophy, of method and mind, in a way that expressed the values of their culture."[39] For Ash, this is how Gestalt psychology emerged.

In the Encyclopedia of Philosophy, the term "Gestalt" is defined as follows; "a Gestalt is essentially an organized whole whose parts belong together, as opposed to being simply juxtaposed or randomly distributed."[40] Another definition explains Gestalt as "a physical, biological, psychological, or symbolic configuration or pattern of elements so unified as a whole that its properties cannot be derived from a simple summation of its parts."[41] As Wertheimer remarks, in *Gestalt*, "what happens to a part of the whole is determined by intrinsic laws inherent in this whole."[42] Thus, according to Gestalt, an observer perceives the interaction of units that makes up the whole instead of perceiving each unit separate from the rest of the whole. In other words, giving prominence to the relations between whole and its parts, the whole is conceived something more than the sum of its parts according to the principles of Gestalt. Since it is principally based on perception, subjectivity of the observer makes sense in Gestalt theory. As Wertheimer indicates:

> On the gestalt view what is all-important is the way in which the immediate, or 'proximal,' stimuli (for example, light waves or sound waves) combine in space and time; when these combinations are of a certain kind, certain perceptual organizations will arise (for example, two parts of a diagram will be

[38] Mitchell G. Ash, 1995, *Gestalt psychology in German culture, 1890-1967* (Cambridge University Press), p. 103.
[39] Ibid.
[40] The Encyclopedia of Philosophy, 2nd Edition, s.v. "gestalt theory."
[41] The American Heritage Dictionary of the English Language, Fourth Edition, s.v. "gestalt."
[42] The Encyclopedia of Philosophy, 2nd Edition, s.v. "gestalt theory."

seen as belonging together), and laws can be framed in terms of which such organizations will be predicted.[43]

Field Concept in Gestalt Theory

The field theory in physics, as it is discussed in the previous part, is employed in Gestalt psychology to explain processes of the human mind and defined as "a complex of forces that serve as causative agents in human behavior."[44] As stated by Rudolph Rummel, "the behavioral (stimulus response or reflex) view of humankind is comparable to the mechanistic interpretation of action at a distance."[45] Thus, for Rummel, human perception and behavior are regarded as mechanical processes, which result from the physical field that corresponds to the individual's geographical environment. That is, human perception and behavior are considered to be consequences of the physical parameters within the individual's physical field.

Starting from the idea that human perception and behavior are defined by the dynamic properties of a person's geographical environment, where forces within his/her physical field are the determinants of his/her behavior, Koffka dwelt on the concept of field in physics while elaborating his studies on Gestalt. As it has already been related, he referred to modern field theory, according to which "empty space as mere geometrical nothingness vanished from physics, is being replaced by a definitely distributed system of strains and stresses, gravitational and electromagnetic, which determines the

[43] Ibid.
[44] Merriam-Webster Online Dictionary, s.v. "field." [Internet, WWW], ADDRESS: http://www.m-w.com/cgi-bin/dictionary [Accessed: December 2003].
[45] Rudolph J. Rummel, 2002, "Understanding Conflict And War: Vol. 1: The Dynamic Psychological Field," [Internet, WWW], ADDRESS: http://www.hawaii.edu/powerkills/DPF.CHAP2.HTM [Accessed: 26 November 2003].

very geometry of space."[46] Consequently, the distribution of strains and stresses in the individual's geographical environment would determine his behavior. Thus, introducing the field concept into psychology, Koffka discussed the correspondence between the human behavior and properties of the environmental field.[47] He claimed that:

> The field and the behavior of the body are correlative. Because the field determines the behavior of bodies, this behavior can be used as an indicator of the field properties. Behavior of the body, to complete the argument, means not only its motion with regard to the field, it refers equally to the changes which the body will undergo; e.g.; a piece of iron will become magnetized in a magnetic field.[48]

Besides the geographical environment, human behavior was also explained referring to the behavioral environment of the individual; therefore a psychological field was defined separately from the physical parameters of an individual's geographical environment. Koffka defines behavioral environment that is "endowed with forces" as "determinant and regulator of behavior."[49] In order to elaborate the distinction between geographical and behavioral environments, Koffka gives the following example:

> Think of yourselves as basking in the sun on a mountain meadow or on a beach, completely relaxed and at peace with the world. You are doing nothing and your environment is not much more than a soft cloak that envelops you and gives you rest and shelter. And now you hear a scream, "Help! Help!" How different you feel and how different your environment becomes. Let us describe the two situations in field terms. At first your field was, to all intents and purposes, homogeneous, and you were in equilibrium with it. No action, no tension. As a matter of fact, in such a condition even the differentiation of the Ego and its environment tends to become blurred; I am part of the landscape; the landscape is part of me. And then, when the shrill and pregnant sound pierces the lulling stillness, everything is changed. Whereas all directions were dynamically equal before, now there is one direction that stands out, one direction into which you are being pulled. This direction is charged with force, the environment seems to contract, it is as though a groove had formed in a plane and you were being forced down that groove.[50]

---

[46] Kurt Koffka, 1935, *Principles of Gestalt Psychology* (New York: Harcourt, Brace and World, Inc.), p. 42.
[47] Ibid., p. 42.
[48] Ibid., p. 42.
[49] Ibid., p. 43.
[50] Ibid., p. 43.

In the example given by Koffka, although there is no physical transformation in the geographical environment, the behavioral environment changes from a homogeneous state to a state of inhomogeneity. This condition is explicated by Koffka as a field condition defined by forces that exist on the directional axis between the person and voice. In addition, relating the following legend, in which the geographical environment is defined in a way different from the example above, Koffka, draws our attention to the distinction between the geographical and the behavioral environment:

> On a winter evening amidst a driving snowstorm a man on horseback arrived at an inn, happy to have reached a shelter after hours of riding over the wind-swept plain on which the blanket of snow had covered all paths and landmarks. The landlord who came to the door viewed the stranger with surprise and asked him whence he came. The man pointed in the direction straight away from the inn, whereupon the landlord, in a tone of awe and wonder, said: "Do you know that you have ridden across the Lake of Constance?" At which the rider dropped stone dead at his feet. In what environment, then, did the behavior of the stranger take place? The Lake of Constance. Certainly, because it is a true proposition that he rode across it. And yet, this is not the whole truth, for the fact that there was a frozen lake and not ordinary solid ground did not affect his behavior in the slightest. It is interesting for the geographer that this behavior took place in this particular locality, but not for the psychologist as the student of behavior; because the behavior would have been just the same had the man ridden across a barren plain. But the psychologist knows something more: since the man died from sheer fright after having learned what he had "really" done, the psychologist must conclude that had the stranger known before, his riding behavior would have been very different from what it actually was. Therefore the psychologist will have to say: There is a second sense to the word environment according to which our horseman did not ride across the lake at all, but across an ordinary snow-swept plain. His behavior was a riding-over-a-plain, but not a riding-over-a-lake.[51]

Consequently, Koffka points to the existence of two environments in an individual's world; geographical and behavioral. As in the case of the man who rode across the Lake of Constance, the behavioral environment of an

[51] Ibid., pp. 27-28

individual as a psychological construct differs from his geographical environment that is merely defined by physical realities.

On the other hand, with reference to the legend quoted above, it is also essential to point out the indispensable relationship between physical and the psychological fields, and the interaction between man's geographical and behavioral environments. The geographical environment plays an active role in the characterization of behavioral environment.

Koffka defines of a unitary universe of discourse by means of interactive relationship between physical and psychological fields (Figure 4). Taking into account the parameters of geographical and behavioral environments, he names the field that is constituted by the interactive relationship of physical and psychological fields as the "psychophysical field."[52] He states that:

> The physical field of the geographical environment acts on a physical object, the organism, and influences the psychological field within this organism; psychological field events take place which change the geographical field and thereby the psychological field. We have a pure problem of physics complicated by the relation of the two interacting fields, the physical and psychological.[53]

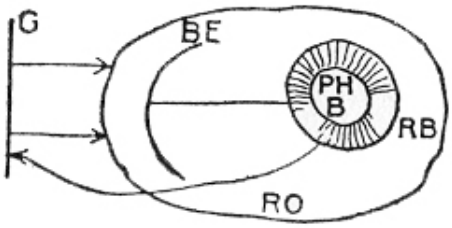


Figure 4- Koffka's schema that summarizes the relationship between individual's behavior and environment.

[52] Ibid., p. 67.
[53] Ibid., p. 52.

It deserves mentioning another application of the field concept in Gestalt psychology, which seems relevant within the scope of this study. First, referring to the discussion on figure-ground condition in which figures are defined as *loci* within a whole that emerge as a consequence of the inhomogeneous distribution of forces, what Koffka states for the conditions of homogeneity and inhomogeneity of stimulus distribution in the human perception may be highlighted (Figure 5). As Koffka indicates:

> Since the retina is a surface, each of its points can be represented within a plane with reference to a Cartesian system of co-ordinates. The intensity at each point would then have to be represented as a point above this plane, and all intensities would lie on a surface whose shape would depend on the distribution of the intensities.[54]

Koffka's analysis of two conditions of stimulus distribution reveals laws of organization and effectiveness of forces in the constitution of a field.[55] The first one is the simplest condition when the stimulus distribution is completely homogeneous; it is realized when the distribution of forces on the sense surface is absolutely homogeneous.[56] Perception of a surface refers to the second condition that is the condition of inhomogeneity. Koffka states that: "... A surface could be seen only when the proximal stimulation and accordingly the distribution of forces are no longer homogeneous."[57] Moreover, he claims:

> To see a surface is a higher degree of organization presupposing special forces... Those forces presuppose inhomogeneities. Nothing will happen within

[54] Ibid., p. 110.
[55] Kurt Koffka, 1978, *Principles of Gestalt Psychology* (New York: Harcourt, Brace and World, Inc.), p. 110.
[56] Ibid., pp. 110-111.
[57] Ibid., pp. 114-115.

> a system in which all parameters have constant values. It is inevitable that inhomogeneous stimulation produces forces in the psychological field. [58]

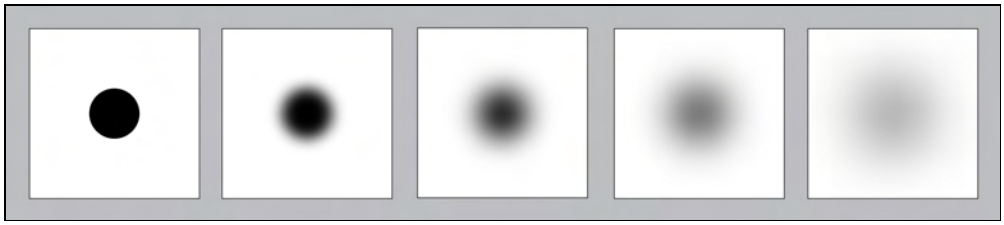


Figure 5- Transition from an inhomogeneous to homogenous state in the perception of a figure on its ground.

Taking into consideration these conditions of stimulus distribution, Koffka states that even a simple perception of a plane empty surface is a highly dynamic event, because even that surface is brought into existence by forces and when these forces change, the perception of the surface also change.[59] In this sense, Koffka is against the traditional perception of space as mere geometrical, he states; "since the traditional treatment of space perception, even by the men who have made the most valuable contributions to our knowledge, is fundamentally undynamic, i.e., purely geometrical, each point having its own "local sign," while the appearance of a surface is held equivalent to the sum of specially distributed local signs."[60] Moreover, he claims:

> All phenomenal space is the product of actually effective forces; phenomenal space may be likened to a balloon whose size depends upon the gas pressure within, and not to a metal sphere... There are two aspects of this hypothesis: one is the interpretation of visual space as a dynamic event instead of a geometrical pattern, another one assumes that expansion of space requires force, and that space will therefore be the smaller the weaker the forces are which support it at a given moment.[61]

[58] Ibid., p. 117.
[59] Ibid., p. 117.
[60] Ibid., p. 117.
[61] Ibid., p. 119.

When we turn back to the inhomogeneous stimulus distribution, it can be explained with an example of an ink blot on a white surface that creates an inhomogeneous condition as a result of its organization of inhomogeneously distributed forces.[62] In such an inhomogeneous condition, there appear two properties within the field, unit formation and the problem of shape; "an ink blot on a white surface is seen as a unit, segregated from the rest of the field, and in the second place it has shape."[63] Koffka explains this point as follows:

> (Firstly,) the equality of stimulation produces forces of cohesion, inequality of stimulation forces of segregation, provided that the inequality entails an abrupt change. … (Secondly), unification and segregation are dynamic events produced by forces and not mere geometrical patterns. … (Thus), unit formation and segregation is a dynamical process, which presupposes forces produced by discontinuities in the proximal stimulation.
>
> The same process produces the shape, which is responsible for segregating the unit. …The shape of an inkblot or any other figure is the result of forces, which do not only segregate the figure from the rest of the field but hold it in equilibrium with the field. There are then forces within the figures and along their contours, a conclusion that we had drawn directly from our experiments. …The point, which concerns us, is the discovery of the forces, which organize our environmental field into separate objects. …The organized objects or units are really dynamically different from the rest of the field, that each such unit has its specific distribution of forces.[64]

Consequently, there are two prepositions that come out; at first, "discontinuity of stimulation produces segregating and unifying forces;" secondly, "homogeneous areas of different quality will at their boundary line produce such forces."[65] Thus, an inkblot is not a perfectly homogeneous area, and yet it has its unity and shape because of the discontinuity at its boundary; this is how the inhomogeneous field is differentiated from the homogeneous one.[66]

---

[62] Ibid., p. 125.
[63] Ibid., p. 125.
[64] Ibid., pp. 125-132.
[65] Ibid., p. 147.
[66] Ibid., p. 148.

The significance of the different conditions of stimulus distribution within human perception might be considered in relation to the field concept in contemporary urbanism which will be further discussed in the following parts.

Concept of Psychological Life Space

Another important figure, Lewin, studied individual's psychological environment in relation to his physical environment and introduced the concept of "psychological life space" into Gestalt theory. As Ash states:

> The unity of perception and action was one of the cornerstones of Gestalt theory. Thus, it was only natural to transfer Gestalt principles to the study of action and emotion. Yet precisely the pluralistic theory of science and the emphasis on the independent reality of psychical forces, that made it easier for Lewin to bridge the gap from perception to affect, and from psyche to society, separated Lewin's approach from Köhler's more stringently physicalistic concept of science.[67]

Ash claims that highlighting "the role of the self in experience," Lewin's theoretical studies on the individual's psychological environment have made a shift in the development of Gestalt theory.[68] Dealing with the dynamics of action and emotion in a person's psychological environment, Lewin also takes into consideration the effects of other people and the images or feelings they lead to in a person's psychological environment.[69] He argues that the psychological life space of an individual has an indefinite structure depending on how different facts in an individual's environment are related to each other and to the individual himself. He states:

---

[67] Mitchell G. Ash, 1995, *Gestalt psychology in German culture, 1890-1967* (Cambridge University Press), p. 275.
[68] Ibid., pp. 282-283.
[69] Ibid., p. 274.

> As far as the content is concerned, the transition from Aristotelian to Galilean concepts demands that we no longer seek the "cause" of events in the nature of a single isolated object, but in the relationship between an object and its surroundings. … One can hope to understand the forces that govern behavior only if one includes in the representation the whole psychological situation.[70]

> In psychology one can begin to describe the whole situation by roughly distinguishing the person and his environment. Every psychological event depends upon the state of the person and at the same time on the environment, although their relative importance is different in different cases.[71]

While explaining the ways in which the life space is represented, Lewin suggests that the different facts in an individual's environment result in the development of a specific and unique structure within the whole of individual's environment.[72] For him, this specific structure consists of many interdependent relationships that make up the whole. That is, factors that make up the whole are not arbitrarily combined in a summative way; rather, there are interdependent and complicated relations between them, as a result of which a whole specific structure of life space is generated in the individual's environment. At this point, in order to explicate the complex structure of life space, Lewin refers to the concept of field. He states:

> It is correct that field theory emphasizes the importance of the fact that any event is the resultant of a multitude of factors. The recognition of the necessity of a fair representation of this multitude of interdependent factors is a step in the direction toward field theory.[73]

Accordingly, a person's life space is influenced and determined by dynamic forces acting on the individual, which Lewin calls as; "the

---

[70] Kurt Lewin, 1936, *Principles of Topological Psychology* Trans. Fritz Heider and Grace M. Heider, (New York: Mc Graw-Hill Book Company), pp. 11-12.
[71] Ibid., p. 12.
[72] Ibid., p. 13.
[73] Kurt Lewin, 1999, "Defining the Field at a Given Time (1943)," in Dorwin Cartwright (ed.), 1951, *Field Theory in Social Science* (New York: Harper and Brothers Publishers), p. 44.

psychological facts in a person's life space."[74] For him, "these influences include internal events (such as hunger, pain, fatigue), external events (restaurants, other people, stop signs, etc.), and prior experiences."[75] That is, "the only requirement for something to be a psychological fact is for it to be in a person's consciousness at a given point."[76] Hence, Lewin regards the individual's life space as an entity with inseparable relations; he states "various parts of a given life space are to some degree interdependent."[77]

Consequently, for Lewin, life space is explicated as the totality of possible psychological events in a person's life; that is, the totality of possible and not possible ways of behaving for a person.[78] Within this life space, the person and other objects are characterized by their relationships to possible events, as well as they characterize the situations resulting from the possible events themselves.

With reference to Koffka's conception of psychophysical field, in which physical and psychological fields are interconnected; Lewin, with a similar approach, view the extent of the life space as a single universe, which is a combination of physics and psychology. Accordingly, he mentions the insufficiency of referring only to the physically experienced world without considering psychological world or vice versa in explanation of the life space. He states:

> What is meant by psychological life space and what must one take into consideration in order to represent it? … Physical or social environment of the individual could be represented to a certain extent; however it is not always easy to determine what things exist psychologically for a given person. Considering the phenomenal facts and physics, Koffka by calling attention to unconscious processes and reflexes has clearly demonstrated that the experienced world (behavioral environment) does not suffice to explain

[74] Dorwin Cartwright, "Foreword," in Dorwin Cartwright (ed.), 1951, *Field Theory in Social Science* (New York: Harper and Brothers Publishers), p. xi.
[75] Ibid., p. xi.
[76] Ibid., p. xi
[77] Ibid., p. xi
[78] Ibid., p. 14.

> behavior. According to this point of view the physical is only indirectly comprehensible; it has to be inferred from psychological experience.[79]

Lewin puts forward the concept of "causality" that generates the chain of events and establishes dynamic interconnections within the individual's life space.[80] As mentioned by him, "in explaining the concept of causality in its historic and systematic understanding one derives psychological events by tracing them back to the dynamic relation in which they have their source."[81] He indicates that, this "tracing back" and the concept of causation are understood in very different ways in psychology. He poses the following question "why does a given situation S (i.e., a particular person *P* in a particular environment *E*) have the event *B* and no other as a result?"[82] Lewin explains this by turning back to the general law defining the concept of life space; B=f (PE) which is valid for the dynamic structure of the situation in question, (Figure 4).[83] He states:

> Thus the event is traced back to the dynamic characteristics of the momentary situation. The "cause" of the event consists in the properties of the momentary life space or of certain integral parts of it.[84]

On the other hand, he asks "why does just such a situation come into being- i.e., why has the life space in a particular case these particular properties?"[85] To clarify this question Lewin indicates the significance of historical development within the individual's life space as the second way of characterizing the concept of causality. He states that:

---

[79] Kurt Lewin, 1936, *Principles of Topological Psychology* Trans. Fritz Heider and Grace M. Heider, (New York: Mc Graw-Hill Book Company), pp. 18-20.
[80] Ibid., p. 30.
[81] Ibid., p. 30.
[82] Ibid., p. 30.
[83] Ibid., p. 30.
[84] Ibid., p. 30.
[85] Ibid., p. 30.

> (The question) deals with historical developments, with chains of causes, and with the point of convergence of these chains. The answer to the question is obtained only by an analysis of the history of the individual and of his environment. We shall speak therefore of "historical concepts of causation" in these cases in contrast to the "systematic concepts of causation" which were characterized above.[86]

Thus, Lewin points out the importance of two main issues in explaining the concept of causation in the individual's life space; the effect of historical development and the interdependence of events in the momentary situation defined by the equation of B=f (PE). As stated by him, "even questions of the dynamics of historical sequences cannot be answered without insight into the dependence of the single event on the given situation, i.e., without determining the equation B=f (PE). This does not imply a neglect or underestimation of the historical problems in psychology."[87]

Within this context, Lewin describes an event as a result of several facts.[88] Thus, he bases his argument on a shift from the "Aristotelian way of thinking," which derives an event from the nature of a single object like the personality of an individual, an inner drive or an emotion (The question whether heredity or environment plays the greater part also belongs to this kind of thinking), to a "Galilean way of thinking" that suggests: "An event is always the result of the interaction of several facts."[89] Moreover, he connects this principle to Gestalt theory's thesis; "effect of a stimulus depends in part upon the nature of the surrounding field."[90] Thus, he states, "if one is to derive events from forces, one will have to recognize that a force is always the result of an interaction of several facts."[91]

---

[86] Ibid., p. 30.
[87] Ibid., p. 32.
[88] Ibid., p. 33.
[89] Ibid., p. 33.
[90] Ibid., p. 33.
[91] Ibid., p. 33.

Furthermore, while Lewin accepts the concept of causation with reference to the effects of historical development and the interdependence of events in the momentary situation within the concept of psychological life space, he refuses the existence of a bridge of memory connecting past experiences and the present events. That is, considering "only what exists concretely can have effects," he argues that neither past nor future psychological facts but only the present situation can influence present events.[92] Hence, for him; "in representing the life space therefore we take into account only what is contemporary."[93] As he states, no matter it takes place in the past or future, any event that psychologically exists in the present, affects the momentary life space of the individual. In order to clarify the existence and temporal determination of a psychological event, he exemplifies this argument by referring to a passage from Stendhal's *Rouge et Noir*:

> Julien, his mind intent on his proposed enterprise, could think of nothing to say. The conversation languished.
> "I wonder if this is the way I shall behave on the occasion of my first duel?" the young man asked himself; for he had too much distrust of himself and others not to be aware of the mental condition he was in.
> Any danger would have seemed preferable to him in his mortal agony. How he prayed that Mme. de Renal might think of some forgotten domestic duty and return to the house! The restraint that he was obliged to put on himself produced an appreciable alteration in his voice; Mme. de Renal's voice, too, was beginning to tremble, but Julien did not notice it; the conflict between duty and timidity was too severe to admit of his thinking of anything outside himself. The great clock of the château struck the third quarter past nine and he had not had courage to attempt anything. Disgusted with his pusillanimity, he said to himself, "When that clock strikes ten I will do what I have been promising myself all day to do, or I will go up to my room and put a bullet in my brain."
> After a period of suspense and anxiety-it seemed a century-during which Julien in his tense emotion thought his reason must desert him, the clock above his head struck ten. Each stroke reechoed in his bosom as if the hammer had fallen on his heart.[94]

[92] Ibid., pp. 34-35.
[93] Ibid., p. 35.
[94] Ibid., p. 36.

As seen in the example above, an event which is expected to happen in the future psychologically exists in the present and it is experienced momentarily in the life space. As Lewin states:

> The goal as a psychological fact undoubtedly lies in the present. It really exists at the moment and makes up an essential part of the momentary life space. On the other hand the "content" of the goal, the touching of the hand, lies as a physical or social fact in the future. Indeed it may not occur at all.[95]

Another prominent issue introduced by Lewin related to the concept of psychological life space is the concept of *topological space.* Ash indicates that in the light of his studies on the concept of psychological life space, "Lewin presented topology as a geometry for defining space-time relations independent of any measuring system with the aim of studying the change in the structure of psychological fields."[96] He states:

> By the late 1920s, he had transformed this abstruse branch of mathematics at least programmatically into a device for the representation of psychological field forces, with the implicit hope of moving eventually to a process-oriented rather than performance oriented concept of measurement. To realize that ideal, he required a way of generating formal representations of concrete psychological situations, as well as "the concrete structure of the psychological person and its internal dynamic factors.[97]

As Ash claims above, introducing the concept of "psychological life space," Lewin aims to explore the possibility of making formal representations of psychological field forces through the use of topology, which is mainly based on the idea of generating formal representations of concrete psychological situations, as well as the concrete structure of the psychological person and its internal dynamic factors. In this respect, it is important to point out the fact that rather than figurative illustrations of the events

---

[95] Ibid., p. 37.
[96] Mitchell G. Ash, 1995, *Gestalt psychology in German culture, 1890-1967* (Cambridge University Press), p. 273.
[97] Ibid., p. 273.

themselves, Lewin's concepts of topology allow to illustrate possible relationships between such events within the individual's life space. Thus, being concerned with the topological properties of possible events within a person's life space, measurable properties of elements in the life space are not given the primary importance. On the contrary, each event is evaluated in relation to other events within the whole, giving priority to their qualitative instead of quantitative aspects. In this sense, Lewin defines the psychological life space in terms of topology as follows:

> The psychological Region: To each part of the life space a region is to be coordinated.
> Thus, we have to represent as a region (1) everything in which an object of the life space, for instance a person, has its place; in which it moves; through which it carries out locomotions; (2) everything in which one can distinguish several positions or parts at the same time, or which is part of a more inclusive whole.
> This definition implies that the person itself has to be represented as a region in the life space, further that the life space as a whole is a region.
> The reverse of the definition of a psychological region also holds: everything that is shown as a region in representing a situation must be a part of the life space.[98]

Considering a person's "psychological life space" as a whole, that is, the person, his environment, and the events that take place within this environment, Lewin's concept of topology is concerned with determining what events are included in a person's life space and to what extent such events affect the whole of his psychological life space. Thus, by applying the concept of topology, structural changes within the whole according to dynamic relationships between components of the life space are represented. With reference to the Gestalt theory, Lewin investigates "how the degree of unity of a whole depends on its structure."[99] Moreover, he states: "The dynamic

[98] Kurt Lewin, 1936, *Principles of Topological Psychology* Trans. Fritz Heider and Grace M. Heider, (New York: Mc Graw-Hill Book Company), p. 93.
[99] Ibid., p. 185.

unity of a whole depends not only on the relation of the parts of the whole to each other but no less on the relation of the whole to its environments."[100]

Eliminating the figural representations in his concept of topology, Lewin brings forth the relationships of part and whole. He emphasizes the evaluation of parts with respect to other parts within the whole. In this context, it deserves mentioning Lewin's concept of topology that he developed with reference to Gestalt theory for the conceptual representation of psychological facts. Its relation to the current architectural debates on diagram architecture will be discussed in the following chapters.

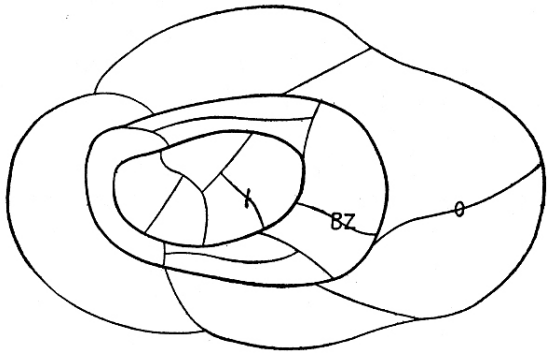


Figure 6 a- "Representation of a situation in individual's life space: Boundary zone between two regions; *I*, inner region; *O*, outer region; BZ, boundary zone."

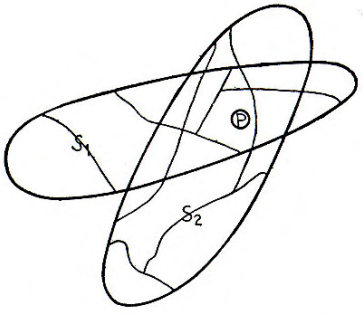


Figure 6 b- "Representation of a situation in individual's life space: Overlapping situations. The person *P* is in two different situations *S1* and *S2* at the same time."

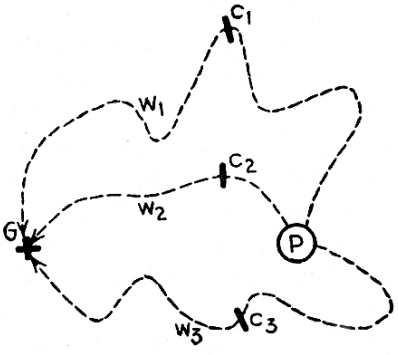


Figure 6 c- "Representation of a situation in individual's life space: Attempt to represent inaccessibility by discrete blocked paths. *G*, goal; *P*, person; *w1, w2, w3*, paths; *c1, c2, c3*, blocked points."

[100] Ibid., p. 185.

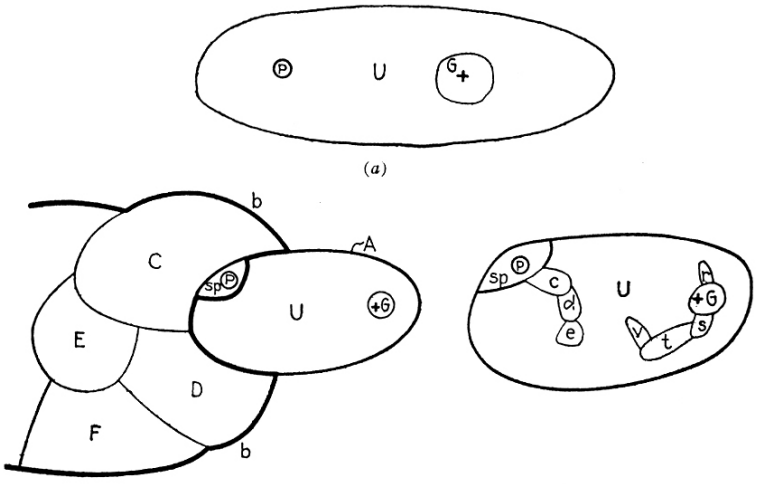


Figure 6 d- "Representation of a situation in individual's life space: Boundary zone of undetermined quality; (In the above) a mathematical task involving an undetermined boundary zone, (In the right below) situation in the beginning stage, (in the left below) attempts to bridge the gap by proceeding form both ends. *A*, Region corresponding to the mathematical task; *P*, person; *G*, goal (solution of mathematical task); *U*, undetermined region between person and goal; *sp*, region corresponding to starting point; *c,d,e,r,s,A,v,* regions, determined in character, which are intended to bridge the gap between sp and *G; C,D,E,F* part of *P*'s space of free movement; *b*, boundary of *P*'s space of free movement."

Since Gestalt theory dealt with facts about the human mind and also facts concerning aesthetic experience while developing a psychological thinking intended to satisfy the requirements of both science and philosophy, it also paved the way for various interpretations of the concepts of "Gestalt" and "field" in art theory and criticism. These interpretations will be discussed in the following chapter.

CHAPTER 4

FIELD CONCEPT IN ART THEORY AND CRITICISM

With the aim of discussing the field concept in art and architectural theory and criticism, this part of the study focuses on diverse examples of works of art and architecture. The concept of field as it was borrowed from the field theory in physics and elucidated in Gestalt psychology has also been influential in art theory and criticism. For instance, Rudolf Arnheim, who is one of the exceptional thinkers well-known in both the field of arts and sciences, studied the implications of Gestalt theory for the world of art and aesthetics, especially in his seminal work *Art and Visual Perception* (1969).[101] Besides, in his book, *The Power of the Center* (1988) he offers a description of the field-forces in visual perception, as revealed by the laws of visual composition in art.[102]

Another contribution of Arnheim, which is concerned with Gestalt psychology and the concept of field, is his book *The Dynamics of Architectural Form*. In this book Arnheim brings into discussion two conceptions of space. It is possible to define space as "a relation between objects." For him, "these relations persist in perceptual experience; thus, "space between things turns

[101] Roy R. Behrens, 1998, "Art, Design and Gestalt Theory," [Internet, WWW], ADDRESS: http://mitpress2.mit.edu/ejournals/Leonardo/isast/articles/behrens.html [Accessed: 29 November 2003].
[102] Ibid.

out not to look simply empty."[103] To clarify his point, Arnheim gives the following example: he states, referring to the figure below, that:

> Unimpaired vision perceives the two buildings as elements of one image, in which a decrescendo affect leads from the tall house down to the low one, or conversely a crescendo makes our eyes rise from low to high. Also the big mass of the one building is seen as contrasting with the small mass of the other, and vice versa, as the viewer's glance moves back and forth between them. Looking at the two is an eminently dynamic experience, in which the space between the buildings is an inseparable part of the image. Far from being empty, that interstitial space is pervaded by gradients. If the width of the interval were to change, i.e., if the buildings were to be closer together farther apart, the slope of the gradients would change concomitantly. So would the contrast between the buildings.[104]

Accordingly, space between these two buildings is defined not as empty. It is a field of perceptual forces whose strength depends upon the visual relation between the buildings. Space between objects has to be considered not as empty space, but as a medium that establishes the perceptual relations between objects.

The relationships between objects are established dynamically according to perceptual factors "arrived at intuitively by our sense of sight."[105] Arnheim mentions their dependence on "forces of attraction and repulsion" in the interspaces between objects, as they are not dependent simply on measurable distances. Perception of these relationships depends on "the strains and stresses activated in the brain field by the particular constellation of stimuli projected upon it by the retinal image."[106] Accordingly, he states:

> Visual distances are judged by the behavior of the perceptual forces generated by them. We feel impelled to juggle the distances between objects until they look just right because we experience these distances as influencing forces of attraction and repulsion. Balancing applies always to forces. If the intervals were experienced as nothing but dead, empty spaces, there would be no criterion, other than practical considerations, for preferring one distance to

[103] Rudolf Arnheim, 1977, *The Dynamics of Architectural Form* (London: University of California Press, Ltd.), p. 17.
[104] Ibid., p. 17.
[105] Ibid., p. 19.
[106] Ibid., p. 19.

> another. I shall have occasion to make a similar point on the control of proportions in architecture.[107]

According to Arnheim, perceptual presence of space has to be distinguished from its physical presence. Thus, what physically exists in space which consists of objects and the emptiness between these objects is interpreted into visual perception in a way that "visual perception contains more than what is given in the physical stimulus pattern;" similar to the configuration of four dots on a paper that may be perceived as a square.[108]

Another prominent figure who studied visual perception, perception of art objects by human beings in relation to the field concept is Gyorgy Kepes. Referring to the existence of a visual field in the perception of art objects, he argues in his book, *Language of Vision* that: "From the simplest form of orientation to the most embracing plastic unity of a work of art, there is a common significant basis: the following up to the sensory qualities of the visual field and the organizing of them."[109] He states:

> The experience of a plastic image is a form evolved through a process of organization. The plastic image has all the characteristics of a living organism. It exists through forces in interaction which are acting in their respective fields, and are conditioned by these fields. It has an organic, spatial unity; that is, it is a whole the behavior of which is not determined by that of its individual components, but where the parts are themselves determined by the intrinsic nature of the whole.[110]

Moreover, arguing that there is a visual field in action during the process of perceiving an object, Kepes indicates that within the "physiological and psychological make-up" of a man, "human perception aims to integrate optical impacts into a balanced, unified whole actions through a dynamic

---

[107] Ibid., p. 20.
[108] Ibid., p. 18.
[109] Gyorgy Kepes, 1949, *Language of Vision* (Chicago: Paul Theobold), p. 15.
[110] Ibid., p. 16.

process of perception."[111] For the field condition within this process of visual perception of human beings, Kepes states:

> A human being is more than his own body; he implies those actions which reach out and transform his environment. A magnetized bar of steel is more than its own mass; its electrical field belongs to it just as much as do its substance, its shape and its weight. The picture-surface becomes a vital spatial world, not only in the sense that the spatial forces are acting on it- moving, falling and circulating- but also in the sense that between these movements the field itself is charged with action. The actual visual elements are only focal points of this field; they are the concentrated energy... The fields of forces may be interrupted; they may impinge upon each other. A field intercepting another field, attracts or repels it; reinforces it or interferes with it. This interaction of one field with another causes strains and stresses. When two lines cross, for examples, the fields of forces fight and the spatial energies are concentrated in the reflecting angle.[112]

Among the "applications" of Gestalt psychology in art and architectural theory, it deserves to emphasize Colin Rowe's and Robert Slutzky's analyses of works of art and architecture in their article, *Transparency: Literal and Phenomenal, Part II.* In this article, Rowe and Slutzky emphasize the significance of the field concept referring to the figure-ground principles of Gestalt psychology and the concept of "psychological field."

For Rowe and Slutzky, the figure-ground perception is an extreme condition of field phenomenon in the sense that a condensation of energy occurs within a field, where the perception of the figure is segregated from the rest of the field. As they state, "figure-ground is figure-field keyed up to a pitch of maximum contrast. It is field reveals as positive; and thus for Gestalt it is the ultimate summary, the classic condensation of the field idea."[113]

---

[111] Ibid., p. 34.
[112] Ibid., p. 29.
[113] Colin Rowe, "Transparency: Literal and Phenomenal, Part II," in Alexander Caragonne (ed.), 1996, *As I was saying: Recollections and Miscellaneous Essays Volume 1 (*Cambridge, Massachusetts, London, England: MIT Press), pp. 104-105.

Figure 7- *Victory Boogie-Woogie*, Piet Mondrian, 1943-1944.

For instance, if we think of a black circle on a white square, where the circle is perceived as a figure and the square as a ground, it is a very basic representation of a field condition, in which the figure is defined as the *locus* within a whole according to distribution of forces within the field. However, due to the level of complexity of the whole, inhomogeneous distribution of forces and intensification of energy at certain locations do not necessarily lead to, a clear perception of figures, (Figure 8).

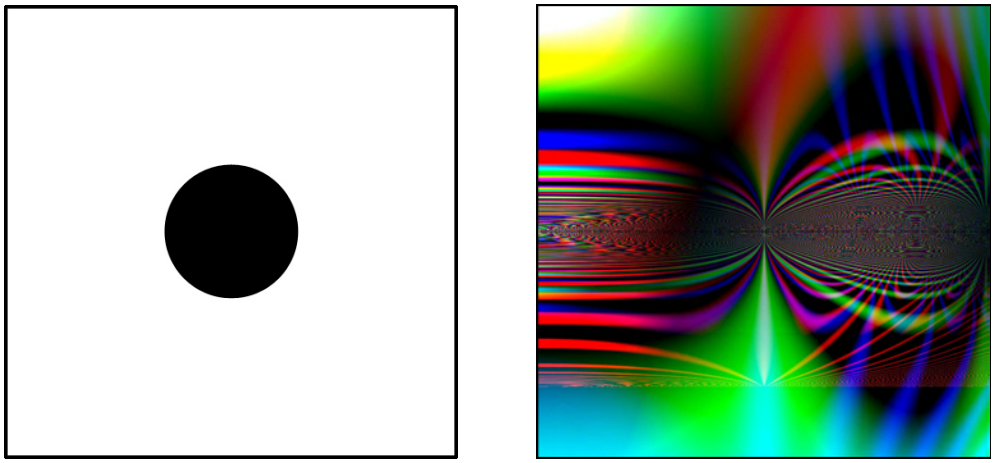


Figure 8- Gestalt diagram (on the left) as an extreme condition of the field (on the right).

Hence, defining the figure-ground relationship as a special instance of figure-field relationships, Rowe and Slutzky point to the existence of a field condition in the perceptual experience of an individual. Accordingly, rather than considering the "ground" as either subservient or passive in its relationship with the figure, they remark that it is the ground that lifts figure into prominence.[114] As Rowe and Slutzky indicate:

> For Gestalt the existence of a field is a prerequisite of all perceptual experience. Consciousness of field, it is assumed, must proceed consciousness of figure; and figure in itself is inconceivable in isolation. In this article attention has been directed toward visual fields alone, and Gestalt does seem to have favored visual illustration of field; but obviously field as such must vary with the nature of the objects and/or perceptions involved. For instance, in the case of our apprehension of a tree, the field may be provided by a mountain, or a lake, or the wall of a house, or any number of things; in the case of our apprehension of a poetic metaphor-in itself a field- the larger field may become a sonnet; in history a given epoch may endow with 'field properties' the idiosyncrasies of the various figures which it support. But in all these cases the field is assumed to be more than the sum total of the elements which it embraces. Genetically it is prior to them. It is the condition of their quality and the reason for their behavior.[115]

How Rowe and Slutzky applied Gestalt psychology in art and architectural theory is significant within the scope of this study; they discuss

[114] Ibid., p. 102.
[115] Ibid., p. 104.

the concept of field in light of Gestalt psychology by means of different examples of art and architecture. In this context I would like to bring forth first their analysis of Piet Mondrian's *Victory Boogie-Woogie* and its comparison with Theo van Doesburg's work, (Figure 9 a, b). Analyzing *Victory Boogie-Woogie*, they point out that the white rectangles are perceived to be the background within the whole; that is, what makes other rectangles to be perceived as figures is the white background lifting the figures into prominence, (Figure 7). However, the figural perception of colored rectangles is not a stable condition; according to different organizations of forces within the perceptual field of the observer, white rectangles could also be perceived as figures within the whole. From this perspective, Rowe and Slutzky compare the works of Mondrian and Doesburg as follows:

> Van Doesburg is the master of the axonometric approach, invariably separating figure from spatial matrix. Mondrian invariably maintains spatial matrix and figure in a reciprocal and constantly fluctuating relationship. And it is because, to my mind, the relationship of figure to matrix in *Victory Boogie-Woogie* is the relationship of object to texture, solid to void, randomness to order, incident to norm, even individual to state -because *Boogie-Woogie* allows figures to augment and to contract, to congeal and to dissolve, to erupt from matrix and to return to it again- that, in terms of the imaginary city which I have been examining, I feel compelled to cite this Mondrian performance as what I believe to be the instigation of anything useful which might have been said here.[116]

[116] Colin Rowe, "The Present Urban Predicament," ed. by Alexander Caragonne, 1996, *As I Was Saying*, *Recollections and Miscellaneous Essays Volume 3-Urbanistics* Cambridge, Massachusetts, London, England: The MIT Press, p. 216.

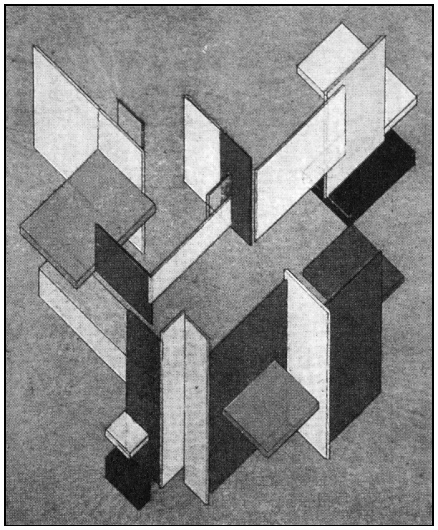


Figure 9 a- *Maison particulière*, Theo van Doesburg.

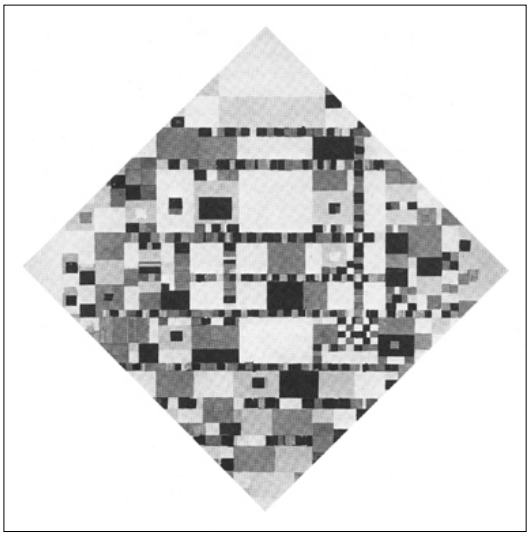


Figure 9 b- *Victory Boogie-Woogie*, Piet Mondrian, 1943-1944.

Alongside the example of *Victory Boogie-Woogie*, Rowe and Slutzky mention the wall plane in Michelangelo's proposal for San Lorenzo's facade design that is perceived to be a background by which individual elements are displayed as figures on the façade, (Figure 10). However, according to different possible organizations within the perceptual field of the observer, the wall plane may also be perceived as a figure within the whole. As Rowe and Slutzky state:

> Obviously dissimilar as regards their content and their more overt formal manifestations, both *Victory Boogie-Woogie* and San Lorenzo are at least alike in defying any accurate description of what they are. In San Lorenzo a lucidly symmetrical, monochromatic composition is saturated with alternative readings. In *Victory Woogie-Boogie* an asymmetrical composition derives qualities of excitement from color, congestion, and the symmetrical nature of its individual parts. The readings of San Lorenzo are for the most part explicit; those of *Victory Boogie-Woogie* are less expressed. The fluctuations of Michelangelo's façade are sudden; those of Mondrian's painting are less violent. In Victory Boogie-Woogie the different areas of white gradually congeal provide the central cruciform figure; and this figure slowly dissolves before a further interpretation in which the vertical axis provides a dominant element. But in both painting and façade there might be noticed a tendency of the different elements to build, to coordinate themselves, to amalgamate by means of proximity or common contour into larger configurations. Thus in *Victory Boogie Woogie,* while areas of red and areas of blue distributed throughout the canvas offer two alternative constellations, adjacent reds and blues show a tendency to withdraw from these systems and to unite into a

series of larger wholes. In San Lorenzo these same propensities may be noticed. There, where a constellation of rectangular areas and columns and a rival constellation of circular and quasi-circular elements are to be found, coalitions are constantly formed between the contiguous representatives of each system.[117]

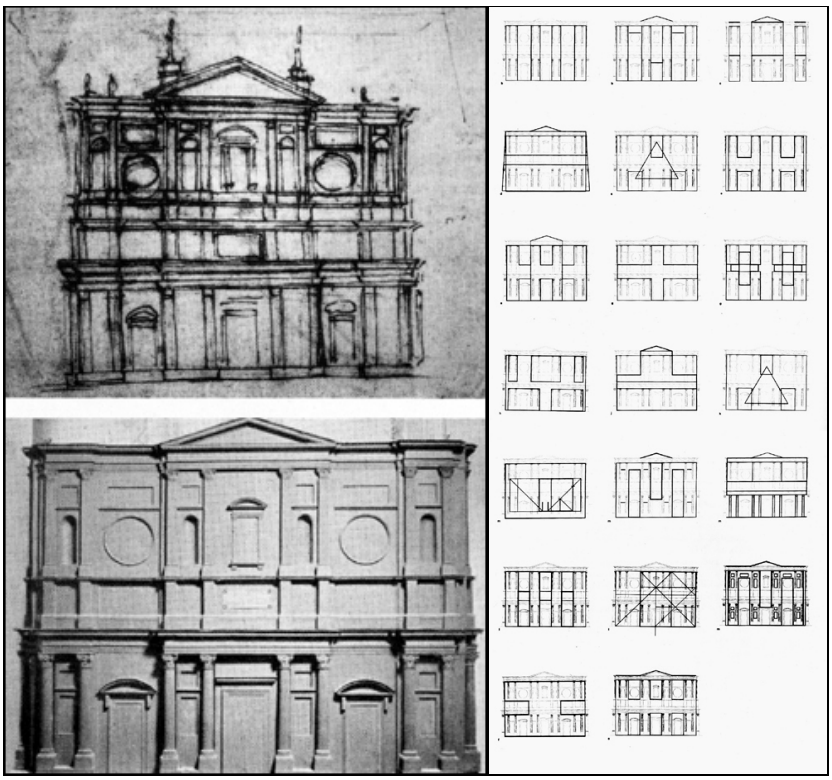


Figure 10- San Lorenzo, Florence: Michelangelo's sketch of his proposal façade, and a model done from this / various interpretations of the facade.

In the light of these examples, it is possible to mention that the perception of figures on a ground is due to dynamic organization of forces that are inhomogeneously distributed within the surface, which cause perception of figures. The figure-ground relationship is defined as a field condition. As stated by Rowe and Slutzky, "like Michelangelo's wall, Mondrian's white plane can cease to be recessive and by exerting a pressure on the figures which initially it appeared to subsume, it can become as highly

[117] Colin Rowe, "Transparency: Literal and Phenomenal, Part II," in Alexander Caragonne (ed.), 1996, *As I was saying: Recollections and Miscellaneous Essays Volume 1 (*Cambridge, Massachusetts, London, England: MIT Press), pp. 94-96.

charged an element or series of elements as they."[118] Thus, perception of figures and backgrounds in their comparative relationship can be regarded as a field condition. Accordingly, the background serves both as the catalyst and neutralizer of the perception of figures.

Rowe's and Slutzky's analysis of Mondrian's painting referring to Gestalt principles, points to the possibility of applying the same method of analysis to urbanism.

[118] Ibid., p. 97.

CHAPTER 5

FIELD CONCEPT IN ARCHITECTURE AND URBANISM

Colin Rowe and Fred Koetter's book *Collage City* is one of the main sources in this part of the study where I discuss the field concept in current architectural theories and practices. Their analyses of modern and traditional cities constitute the basis of the discussion that proceeds by focusing on the notion of *collage city* in relation to Gestalt psychology. After discussing the architectural features and forces that establish modern and traditional cities in the light of Rowe's and Koetter's argument based on Gestalt psychology, the study concentrates on the reemergence of field concept in the theoretical studies on the contemporary city.

The Concept of Field in Current Architectural Theories and Practices

> With the use of animation-based software to visualize the temporally fluctuating forces associated with the city, urbanism was investigated as a network of interacting fields and forces which can be exchanged and replaced rather than a tableau of inert objects. The resultant image was a new urban condition where programs mix and evolve in a supple way.[119] Ammar Eloueini

[119] Ammar Eloueini, "The Roppogni, Tokyo," in Giuseppa Di Cristina (ed.), 2001, *Architecture and Science* (London: Artmedia Press Ltd.), p. 137.

The concept of field has been invoked in current architectural theory and practice as a conceptual tool that allows to interrogate some traditional conceptions of architecture, and to explore new possibilities. Accordingly, the use of the field concept as a tool for understanding the contemporary urban context has become widespread in today's architectural practice and theory. Though the field concept is used widely in current architectural debates, the place allotted to it within architectural theory and practice needs to be explained and discussed. For instance, as referred above, Ammar Eloueini makes use of the word "field" without attempting to clarify its meaning; that is, he uses the word "field" as if it has a shared meaning in architectural discourse and thus there is no need for further explanation of it. Though the meanings of the terms "field" and "force" within the current architectural discourse are assumed to be well-known, this is often not the case. Hence it is essential to reveal the scope of the field concept within the current debates of architecture and urbanism.

Another important issue related to the quotation above is that Eloueini emphasizes the significance of the field concept for understanding and evaluating the contemporary city, while pointing to the advances in the visualization of the urban field offered by the new computer software. From Eloueini's point of view, contemporary city has to be regarded as "a network of interacting fields and forces" that arises from complex, temporal and dynamic relationships within the city.[120] Thus, he proposes the employment of field concept as essential for understanding contemporary urbanism. As mentioned above, Eloueini points to the possibilities opened by new computer technologies and softwares in the employment of field concept in architectural

[120] Ibid., p. 137.

practices. The graphic representation tools of computer softwares could be used "to visualize temporarily fluctuating forces associated with the city."[121]

Actually, the use of field concept in architectural theory and urbanism, and the use of new computer technologies allowing to visualize field relationships in the contemporary metropolis, may be considered in relation to each other. That is, the contemporary city and its dynamic, fluctuating contextual forces may be considered as a field-field organization, and the use of emerging computer technologies may allow to visualize the condition of the contemporary city.

As it is already mentioned, the field concept has become widespread in today's architectural practice and theory as a conceptual tool; thus, it is essential to depict the scope of its use in architecture and urbanism beginning from the period when the concept of field became significant in architecture.

Initially, it is necessary to mention an early interpretation of the field concept in architecture with reference to the field theory in physics in the work of Christopher Alexander in 1960s. As he indicates in his book, *Notes on the Synthesis of Form,* he uses the concept of field as a tool to explain his design methodology. He bases his design methodology on the idea that a design problem begins with the recognition of a misfit between two entities: the form and its context. Solution of a problem is the outcome of an effort to achieve fitness between them. Form emerges as a solution of a particular problem.[122] Accordingly, Alexander mentions "good fit" as "a desired property of this ensemble which relates to some particular division of the ensemble into form and context"[123] and describes their indissoluble relation with the example of contextual forces in a magnetic field. He states:

---

[121] Ibid., p. 137.
[122] Christopher Alexander, 1970, *Notes On the Synthesis of Form,* 5th ed. (Cambridge, Massachusetts: Harvard University Press,), p. 15.
[123] Ibid., p. 15.

> Suppose we are to invent an arrangement of iron filings which is stable when placed in a certain position in a given magnetic field. Clearly we may treat this as a design problem. The iron filings constitute a form, the magnetic field a context. Again we may easily judge the fit of a form by placing it in the magnetic field and watching to see whether any of the filings move under its influence. If they do not, the form fits well. And again, if we wish to judge the fit of the form without recourse to this experiment, we may describe the lines of force of the magnetic field in mathematical terms, and calculate the fit or lack of fit.[124]

Alexander views this physical simulation of magnetic field as the good fit between form and context. Form is the pattern that is set up by iron filings when they are placed in a magnetic field. He indicates that the form or pattern is the fit that compensates the irregularities of the world.[125] In other words, form is a state that balances the contextual irregular forces. Alexander calls these irregularities as the "functional origins of the form."[126] This is how, Rowe's and Alexander's interpretations of field concept differ. While Rowe approaches the situation from a psychological point of view, Alexander establishes a direct analogy between physics and architecture.

In the same period, with the aim of taking into account the more intangible social and cultural factors and shifting the attention towards "human association" in architecture and urbanism, mat concept was introduced within the scope of architecture. Suggesting improvement of the experience of the new urban environments instead of physical improvement of living standards, mat concept of 1960s became an important tool in the criticism of modernist functionalism.[127]

In current debates on architecture and urbanism, the concept of field has also been discussed with reference to the mat concept of 1960s.

---

[124] Ibid., p. 15.
[125] Ibid., p. 15.
[126] Ibid., p. 15.
[127] Eric Mumford, April 2002, "Urban Design: Practices, Pedagogies, Premises: From CIAM to Collage City: Postwar European Urban Design and American Urban Design Education," p. 8, [Internet, WWW, PDF], *Available:* Available in .PDF format; ADDRESS: http://www.vanalen.org/forums/_graphics/Briefing%20Materials.pdf , [Accessed: 3 August 2003].

Explicating the significance of mat concept in contemporary architecture Sarkis states:

> Today mats are appearing everywhere. We call them fields, grounds, carpets, matrices. Whether seen as counterpoint to the preoccupation with sculptural form or as what happens to architecture when it has to cover really large areas, no building type, it could be stated without exaggeration, captures the predicaments but also the imagination of contemporary architecture more fully.[128]

For Sarkis mat concept has come into discussion whenever it became necessary to achieve "efficiency in land use, indeterminacy in size and shape, flexibility in building use, and mixture in program."[129] Mat concept points to the possibility of creating an urban field as a mixed-use and complicated urban structure within which homes, offices, factories, and shopping malls are organized.

Examining the scope of field concept in current debates on architectural theory and practice, it is also essential to mention the significance of *diagram architecture* which is argued in relation with discussions on computer aided design. Diagram architecture is defined by Allen as follows: "it is an architecture that establishes a loose fit of program and form, a directed field within which multiple activities unfold, channeled but not constrained by the architectural envelope."[130] Thus, it is an architecture that tends to be prominent by its "performative effects with minimal architectural means," an architecture of interactive relationships of forces in a field.[131] As it is mentioned by Greg Lynn, since it is characterized by forces rather than forms, diagram architecture needs to be understood as

---

[128] Hashim Sarkis, "Introduction," in Hashim Sarkis (ed.), 2002, *Le Corbusier Venice Hospital* (Prestel, USA), p. 13.
[129] Ibid., p. 13.
[130] Stan Allen, 1998, "Diagrams Matter," ANY Magazine, Vol. 23, p. 18.
[131] Ibid., p. 18.

complex and dynamic; "instead of form, patterns of organization are to be addressed in architectural design."[132]

For Allen, organization of a diagram "anticipates new organizations," "specifies yet to be realized relationships," and "supports multiple interpretations."[133] In this respect, being concerned with the relationships between parts of the organization, a diagram goes beyond the figural representations; that's why the graphic representation of the diagram may be totally different than what it produces. As Allen states, "diagram architecture is not necessarily an architecture produced through diagrams. Although diagrams figure in the works of the architects mentioned, the idea that the working procedures of the architect imprint themselves on the realized building is foreign to the logic of the diagram."[134]

Computer technologies are also utilized in architecture by the way of taking advantage of its ability to visualize realistic images in order to represent reality. A digital image that is created by using computer software serves another kind of field condition within the digital environment.

Stan Allen in his article Terminal Velocities, states that "if classical composition sought to maintain clear relations of figure on field, which modern composition perturbed by the introduction of a complicated play of figure against figure, with digital technologies we now have to come to terms with the implications of a field/field relation."[135] If it is considered that a digital image, which is perceived to be a figure on a background, is defined by pixels and bits of information distributed all over its surface, the background itself is also coded with bits of information as well as the foreground image.

---

[132] Greg Lynn, May-June 1997, "An Advanced Form of Movement," *Architectural Design* Vol. 67, p. 54.
[133] Stan Allen, 1998, "Diagrams Matter," ANY Magazine, Vol. 23, p. 16.
[134] Ibid., p. 18.
[135] Stan Allen, Saul Ostrow, and Diana I. Agrest, 2000, *Practice: Architecture, Technique and Representation (Critical Voices in Art, Theory, and Culture)* (Routledge), p. 155.

So, bits of information which are coded to decipher the figure or the background constitute an invisible organization creating a field-field condition within the whole.[136]

Allen also mentions the complexity achieved by the superposition of different fields that cause "apparently irregular behaviors."[137] To clarify his statement Allen gives the example of moiré effect. . He defines moiré as "a figural affect produced by the superposition of two regular fields," (Figure 11, 12).[138]

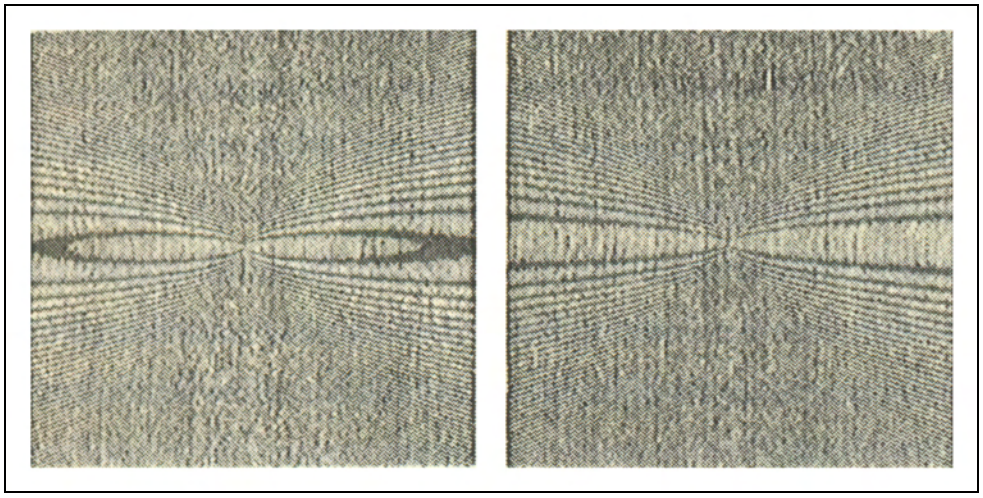


Figure 11- "Moiré fringes formed by the superimposition of a circular grating and two linear gratings with periods (on the left) larger than and (on the right) equal to the period of the circular grating."

[136] Ibid., p. 155.
[137] Ibid., p. 155.
[138] Ibid., p. 155.

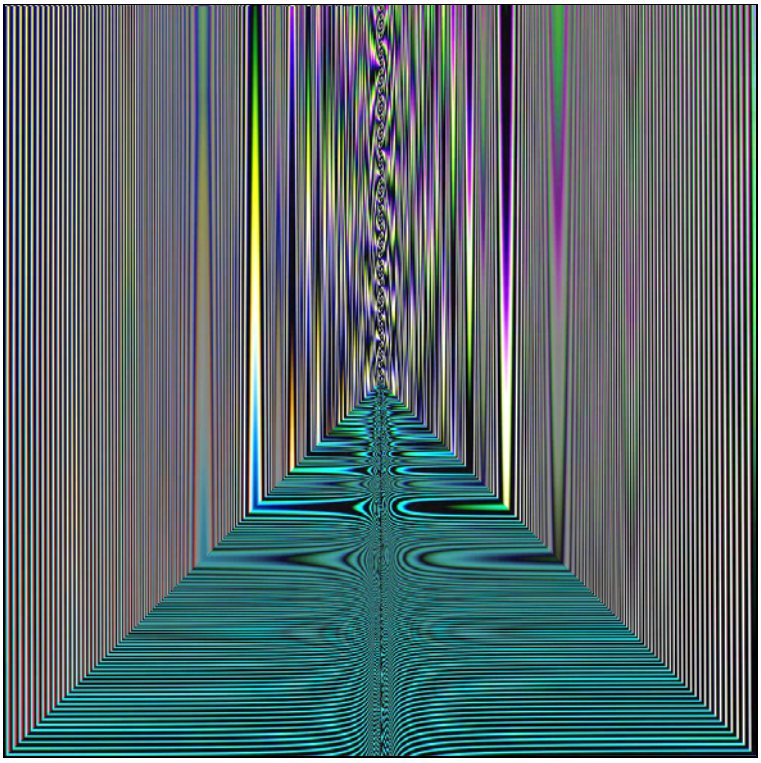


Figure 12- Moiré effect occurring in the perception of a digital image.

Despite their unexpected, apparently irregular nature, moiré effects are not random. Moiré effects are predictable since they are defined by complex mathematical rules.[139] Thus, in spite of the regularity in the organization, complexity of figural organizations causes perception of irregular figures.

The field concept is also invoked within the scope of current architectural debates because of the relationship between a *field* and a *grid*. A field is a complex organization of inhomogeneously distributed forces, which create moments of intensity within the whole. A grid, on the other hand corresponds to the most homogenous condition, which could be considered as an extreme state of a field, in which all forces are homogenously distributed.

[139] Ibid., p. 155.

Allen states that "all grids are fields but not all fields are grids."[140] That is, a grid with its neutral character serves an extreme state of a field. Allen states that:

> One of the potentials of the field is to redefine the relation between figure and ground. If we think of the figure not as a demarcated object read against a stable field, but as an effect emerging from the field itself- as moments of intensity, as peaks or valleys within a continuous field-than it might be possible to imagine figure and field as more closely allied. What is intended here is a close attention to the production of difference at the local scale, even while maintaining a relative indifference to the form of the whole.[141]

Accordingly, since the figure-ground is defined as an extreme condition of a field in which forces are inhomogeneously distributed and concentrated at certain locations within the field, grid may be considered as another extreme condition of the field in which distribution of forces points to the most homogenous condition.

Two Models: Traditional and Modern Cities

Beginning with the interwar period, Modernist urbanism, founded on CIAM congress, introduced utopian models for the city proposing "improved living standards," "greater social cohesiveness," and "individual urban experience" through urban design.[142] According to these utopian models, the existing city context was ignored and creation of a new society by the construction of the new modernist city was proposed. For the modern

---

[140] Stan Allen, 1999, *Points and Lines: Diagrams and Projects for the City* (New York: Princeton Architectural Press), p. 97.
[141] Ibid., p. 97.
[142] Eric Mumford, April 2002, "Urban Design: Practices, Pedagogies, Premises: From CIAM to Collage City: Postwar European Urban Design and American Urban Design Education," p. 5, [Internet, WWW, PDF], *Available:* Available in .PDF format; ADDRESS: http://www.vanalen.org/forums/_graphics/Briefing%20Materials.pdf , [Accessed: 3 August 2003].

architect the modernist utopian ideal, "ending the old and starting anew" became a primary principle.[143] Thus, rejecting the existing urban and social structure, modernist urbanism attempted to make totalitarian interventions to the city, through which the existing urban fabric was totally ignored and totalitarian projects were proposed for the city. For Eric Mumford, this tendency continued after the World War Two:

> The immense destruction of urban centers during World War Two in Europe was at first seen by CIAM as a potential opportunity for reconstruction along the lines of the Functional City. This broad CIAM direction was developed in the early 1930s and included Le Corbusier's urbanism as well as more strictly "functionalist" approaches to urban reorganization. The CIAM Functional City was based on the idea that cities should be designed with separate, functionally zoned areas for dwelling, work, and recreation, all tied together by high-speed transportation, preferably highways. CIAM did not argue that all existing cities should be destroyed, but they believed that most historic centers were obsolete and could either be demolished, or preserved as archeological zones of historic interest.[144]

Starting form the 1950's, modernist urbanism was criticized by the propounders of new urbanistic positions according to which modernism represents utopian and unrealistic approaches towards urban planning and architecture. For Mumford, initially, the primary criticism against modernist attitudes came from Team 10 as a criticism of CIAM from within. Alison Smithson's criticism which developed out of Team 10 discussions allowed the elaboration of the notion of "mat-building" "generating greater individual freedom," "a new and shuffled order based on interconnections, close-knit patterns of association and possibilities for growth, diminution and change."[145] Team 10 suggested bringing into consideration the more intangible social and

---

[143] Colin Rowe and Fred Koetter, 1978, *Collage City* (Cambridge, Mass: MIT Press), p. 13.
[144] Eric Mumford, April 2002, "Urban Design: Practices, Pedagogies, Premises: From CIAM to Collage City: Postwar European Urban Design and American Urban Design Education," p. 5, [Internet, WWW, PDF], *Available:* Available in .PDF format; ADDRESS: http://www.vanalen.org/forums/_graphics/Briefing%20Materials.pdf , [Accessed: 3 August 2003].
[145] Eric Mumford, "The Emergence of Mat or Field Buildings," in Hashim Sarkis (ed.), 2002, *Le Corbusier Venice Hospital* (Prestel USA), p. 49.

cultural factors to shift the attention towards "human association" in urbanism "rejecting the technocratic rationalism of modernism."[146]

The criticisms against interventions of modern architecture and urbanism persisted during the following period, and new approaches towards urbanism were developed. Mumford points out that three figures emerged as particularly important in the 1960's: Josep Lluis Sert, Denise Scott-Brown and Colin Rowe whose ideas have been directly influential on the emergence of the so-called New Urbanism which is presented as a promising solution for urbanism. Sert focused on the ideas about "the ability of architecture to generate urbanity through form."[147] He developed "his own version of Corbusian proportional systems," which might be described as a "late-CIAM focus on the city as a pedestrian urban system generated from standardized elements."[148] On the other hand, Scott-Brown was influenced by Alison and Peter Smithson's concern for "popular culture and American advertising."[149] She propounded the idea that "urbanism should both facilitate and express popular identification with the urban environment."[150]

For Mumford, Rowe, with his more "historically inflected approaches" "combined the Sitte-like use of pre-twentieth century urban design traditions with Corbusian urbanism."[151] Rowe introduced his ideas on urbanism in his book, *Collage City,* which he published in collaboration with Fred Koetter. Rowe and Koetter's criticism of modern architecture and modern urbanism has a significant place among others. It focused on the modern architect's

---

[146] Eric Mumford, April 2002, "Urban Design: Practices, Pedagogies, Premises: From CIAM to Collage City: Postwar European Urban Design and American Urban Design Education," p. 8, [Internet, WWW, PDF], *Available:* Available in .PDF format; ADDRESS: http://www.vanalen.org/forums/_graphics/Briefing%20Materials.pdf , [Accessed: 3 August 2003].
[147] Ibid., p. 11.
[148] Ibid., pp. 11-12.
[149] Ibid., p. 12.
[150] Ibid., p. 12.
[151] Ibid., p. 12.

failure to grasp the multivalent structure of the city as a consequence of his/her utopian perspective. They rejected the grand utopian visions of "total planning" and "total design" imposed by modernism, and instead, they proposed a "collage city."[152]

> There remains the old and enticing advice that, if rape is inevitable, then get with it and enjoy; but, if this central creed of Futurism-let us celebrate *force majeure*-is unacceptable to the moral consciousness, then we are obliged to think again. Which is what the present essay is all about. A proposal for constructive dis-illusion, it is simultaneously an appeal for order and disorder, for the simple and the complex, for the joint existence of permanent reference and random happening, of the private and the public, of innovation and tradition, of both the retrospective and the prophetic gesture. To us the occasional virtues of the modem city seem to be patent and the problem remains how, while allowing for the need of a 'modem' declamation, to render these virtues responsive to circumstance.[153]

For Rowe and Koetter, the city of modern architecture has not been built yet.[154] For them, while promising "universal liberation" and "obligation to science" and utopian rational construction of the physical world, the built interventions of the modern architecture are "contradictory," "confused" and "unsophisticated."[155] At this point, two contradictory attitudes are underlined by Rowe and Koetter that are ideally embodied in twentieth century modern architecture; "scientism" which they relate with the belief that "the methods of the physical sciences are applicable or justifiable in all fields of inquiry,"[156] and "romanticism" which is involved with "individual's expression of emotion and imagination and rebellion against established social rules and conventions."[157] Rowe and Koetter claim that modern architecture has failed to display the idealism of the combination of "fantasies about science and

---

[152] Colin Rowe and Fred Koetter, 1978, *Collage City* (Cambridge, Mass: MIT Press).
[153] Ibid., p. 8.
[154] Ibid., p. 2.
[155] Ibid., p. 2-3.
[156] The American Heritage Dictionary of the English Language, Fourth Edition, s.v. "scientism."
[157] The American Heritage Dictionary of the English Language, Fourth Edition, s.v. "romanticism."

fantasies about freedom, and remained naive in its theoretical activity."[158] They indicate that the idealism of modernism remained no more than a fantasy, which is far from being realized.[159] Moreover, they state:

> For if the combination of fantasies about science-with its objectivity and fantasies about freedom-with its humanity-, comprised one of the most appealing and pathetic of late nineteenth century doctrines, then the decisive twentieth century embodiment of these themes in the form of building could not fail to stimulate; and, the more it excited the imagination, the more the conception of a scientific, progressive and historically relevant architecture could only serve as a focus for a still further concentration of fantasy. The new architecture was rationally determinable the new architecture was historically predestined; the new architecture represented the overcoming of history; the new architecture was responsive to the spirit of the age: the new architecture was socially therapeutic; the new architecture was young and, being self-renewing, it was never to be wearied by age; but-perhaps above all-the new architecture meant the end to deception, dissimulation, vanity, subterfuge and imposition.[160]

> Like the idea of World War I as a war to end the war, the city of modern architecture, both as psychological construct and as physical model, has been rendered ridiculous.[161]

Rowe and Koetter propose the concept of *Collage City* for the correction of the existing situation inherited from the failed ideologies of modern architecture. They claim that the Modern movement, which led to the paradox of complex house-simple city, disregarded the complexity of the urban fabric.[162] In addition, the idea that is promoted by modernist urbanism proposing the new city as "simple" has never been realized.[163] That's why Rowe calls the city proposed by Modern movement remained as a "psychological construction."[164] Modernism's promotion of the idea of the "simple city" proposed buildings within the city as autonomous objects

---

[158] Ibid., p. 3.
[159] Ibid., p. 3.
[160] Ibid., p. 4.
[161] Ibid., p. 4.
[162] Colin Rowe, "The Present Urban Predicament," ed. by Alexander Caragonne, 1996, *As I Was Saying*, *Recollections and Miscellaneous Essays Volume 3-Urbanistics* Cambridge, Massachusetts, London, England: The MIT Press, p. 166.
[163] Ibid., p. 166.
[164] Ibid., p. 166.

detached from the urban context. As Rowe and Koetter indicate; "the tradition of Modern architecture has tended to produce objects rather than spaces, has been highly involved with problems of the built solid and very little with problems of the unbuilt void."[165] Under such circumstances, they criticize Modern architecture's "object fixation," by stating that "how to make a city if all buildings proclaim themselves as objects and how many object-buildings can be aggregated before comprehension fails?"[166]

Rowe and Koetter criticize Modern architecture's detachment from the city context and existing urban fabric also by referring to the concept of garden; they state, "Although the principle victim of Modern architecture has been the city, its first victim was surely the garden."[167] In the traditional city, there was a concern for the garden which is regarded to be "the support and extension of the house."[168] The house is a part of the continuous solid matrix within the traditional city and the garden that is surrounded by the continuous solid, becomes the point of attraction and concentration of forces; as stated by Rowe and Koetter, "Garden was to be structure for the exhibition of house as event."[169]

Rowe and Koetter give Gerrit Rietveld's Schroeder House at Utrecht and Edwin Lutyens' Grey Walls at Gullane as examples of two different states of mind (Figure 13 a, b).[170] For them, in Schroeder House, "what is figure and what is ground evaporates."[171] Attention is "directed to the built solid," and the house as a freestanding object is not connected to any ground. While, in

[165] Ibid., p. 170-171.
[166] Ibid., p. 171.
[167] Ibid., p. 171.
[168] Ibid., p. 171.
[169] Ibid., p. 171.
[170] Ibid., p. 173.
[171] Ibid., p. 173.

the case of Grey Walls, attention is "toward the unbuilt void," where the garden as a figure grew on its ground that is the house.[172]

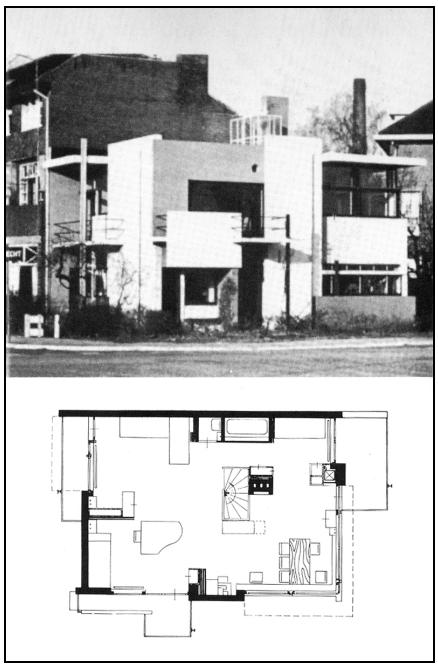


Figure 13 a- Schroeder House, Utrecht, Gerrit Rietveld.

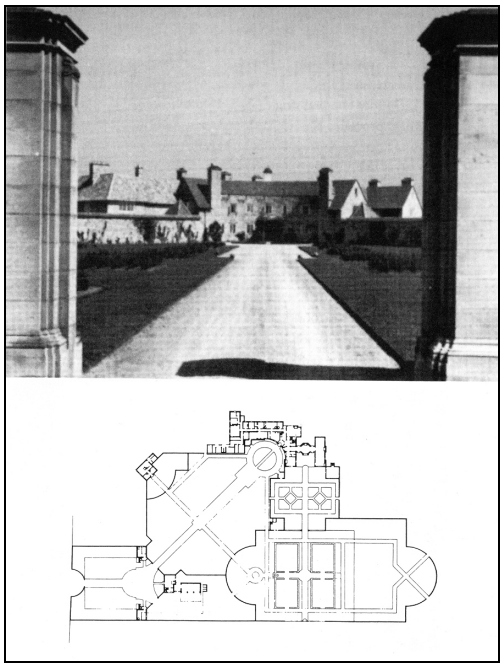


Figure 13 b- Grey Walls, Gullane, Edwin Lutyens.

In this context, Rowe and Koetter refer to Le Corbusier who makes an analogy between a building of Modern architecture and a soap bubble; "A building is like a soap bubble. This bubble is perfect and harmonious if the breath has been evenly distributed from the inside. The exterior is the result of the interior," (Figure 14-a).[173] Criticizing this approach of Modern architecture toward the city, Rowe and Koetter claim that the city promoted

[172] Ibid., p. 173.
[173] Le Corbusier, 1927, *Towards a New Architecture* (London: Payson & Clarke), p. 167, quoted in Colin Rowe, "The Present Urban Predicament," ed. by Alexander Caragonne, 1996, *As I Was Saying*, *Recollections and Miscellaneous Essays Volume 3-Urbanistics* Cambridge, Massachusetts, London, England: The MIT Press, p. 181.

by modern architecture is "an accumulation of isolated solids in largely unmanipulated void"[174] and they state:

> Rational equality, light, air, movement, aspect, prospect, hygiene, recreation, a general limpidity, no confusion; all of these are among the spiritually refreshing virtues of that city of Modern architecture which has been so crudely exploited and which, unhappily, can never be built. And it remains to confront this enlightened and somewhat eighteenth-century condition with the opposite and rather messy virtues of the traditional city, of which confluence and convergence are among the greatest benefits.[175]

In this context, Rowe and Koetter introduce Vigevano in the west-southwest of Milan as an example of traditional city, representing the reverse of the attitude of Modern architecture towards the city, (Figure 14-b). For them, Modern city "represents nothing more than a demolition of public life."[176] On the other hand, in the traditional city, the continuous fabric of buildings is "free from the most of the dictates of function and is, correspondingly, available for the accommodation of all kinds of transient local uses."[177]

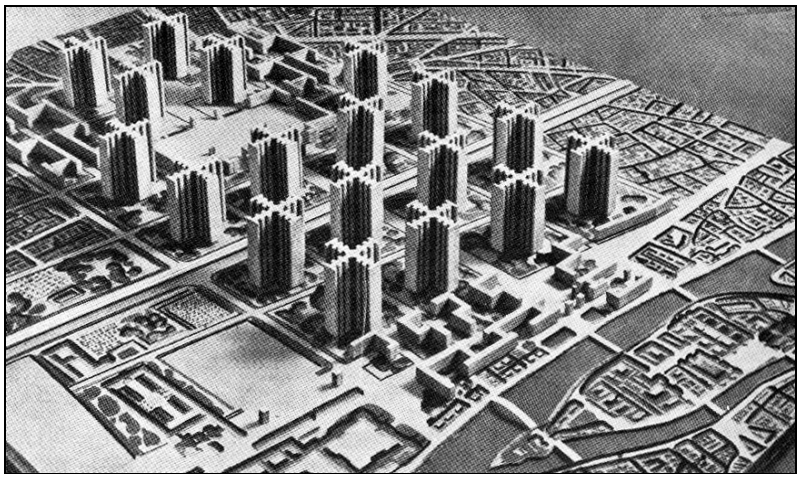


Figure 14 a- Plan Voisin, Paris, Le Corbusier.

[174] Ibid., p. 187.
[175] Ibid., p. 191.
[176] Ibid., p. 194.
[177] Ibid., p. 194.

Figure 14 b- Vigevano, west-southwest of Milan.

Moreover, Rowe and Koetter claim that one of the best examples that represent the virtues of traditional city is the city of Rome, (Figure 15).[178] They state, "For here we are presented with the greater part of the story; a more or less uniform ceiling height; a dense matrix, tissue, or texture, from out of which relatively neutral field certain spaces are subtracted and certain objects are allowed to erupt."[179]

[178] Ibid., p. 196.
[179] Ibid., p. 196.

Figure 15- Rome, view.

Comparison of Two Models: Traditional and Modern Cities

Rowe and Koetter criticize and discuss modern and traditional attitudes and propose a new strategy for overcoming the inherent problems of contemporary urban planning. They introduce a method of figure-ground plan reading of urban layout to reveal the continuity and change of the city. At this point, what Koffka says for figure-ground relationship may be highlighted; "in considering the figure-ground relationship it is obvious that there is a connection between things and figures on the one hand and ground and

framework on the other."[180] In addition, he states that another basic characteristic of this relationship is that the figure lies upon the ground, (Figure 16-a, b).[181] That is, the existence of figure and its characteristics depends upon the ground, on which the figure appears. The ground serves as a framework in which the figure is supported and thereby determines the figure. In such a relationship it is the figure that we are concerned with, the figure we are remembering and not the ground.[182] Thus we find a beginning of the thing-non-thing difference in the figure-ground articulation of the field.[183] Gestalt psychology brings to light the communication between figure and ground, and reveals their connectedness. Although they could be perceived as separate in a whole, their perception is dependent on each other. What makes the figure perceived as a figure is its ground or framework, so there is a dialectical relationship between them. In such a relationship the figural aspects cannot be abstracted from the context of the whole and the figure or the ground cannot be evaluated separately.

Figure 16 a- Rubin Vase indicating Figure-ground principle of Gestalt Theory.

[180] Kurt Koffka, 1978, *Principles of Gestalt Psychology* (New York: Harcourt, Brace and World, Inc.), p. 184.
[181] Ibid., p. 184.
[182] Ibid., p. 186.
[183] Ibid., p. 186.

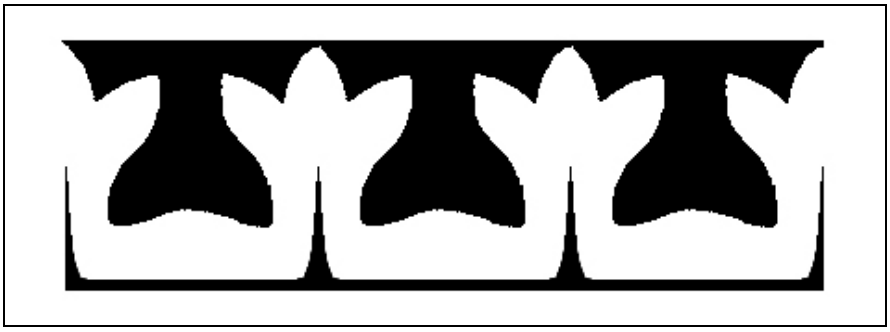


Figure 16 b- Figure-ground principle: The black and white figures differ in shape also, T's vs. leaves, but the respective grounds are much more similar to each other, both being stripes, the black one on its lower side bounded by a sinuous line.

Rowe's and Koetter's criticism of modernist urbanism can be best understood through its figure-ground reading. Emphasizing the significance of architectural object, modernism disregards the dialectical relationship between figure and ground, regarding the ground as a continuous void that has no real contribution to the figure. On the other hand, figure-ground reading of the traditional city shows the significance of the relationships between architectural objects instead of the objects themselves.

In their figure-ground reading, Rowe and Koetter compare two architectural images of the city: the traditional city, with its open spaces "carved out of a solid mass" and modern city with its isolated buildings standing free in open space, (Figure 17-a, b).

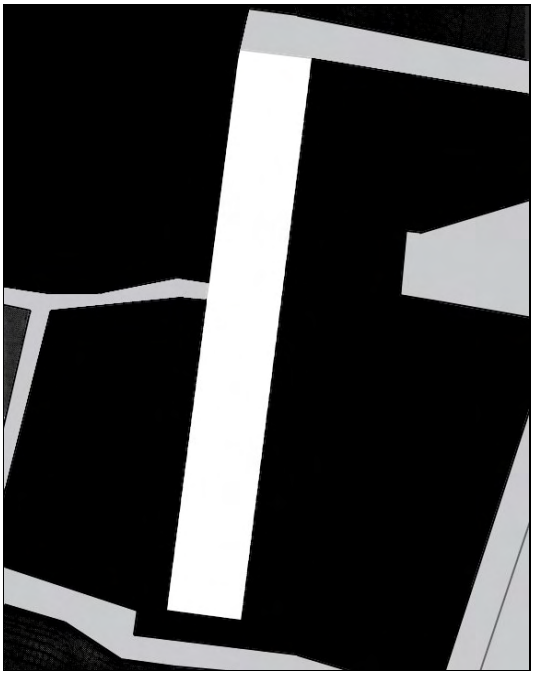


Figure 17 a- Figure-ground reading of Uffizi Palace: Urban void becomes the figure that lies upon the ground of the continuous solid.

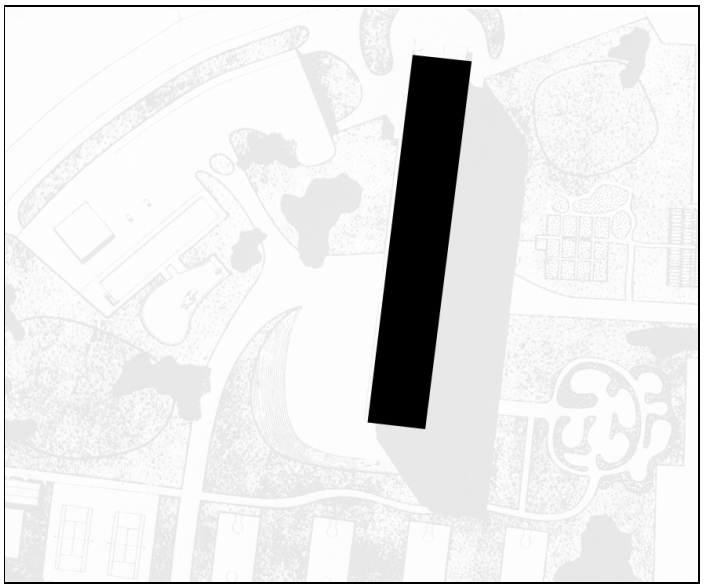


Figure 17 b- Figure-ground reading of Marseille Block: Solid object becomes the figure that lies upon the ground of the continuous void.

The figure-ground plan of the traditional city reveals the balance between its solids (buildings) and voids (open space). It could also be read as

reversed, the voids acting as separate figures and solids as a continuous background. Two-dimensional representation of figure-ground plan allows reading of the traditional city as a pattern of buildings and open-spaces. Being related to Gestalt principles, the traditional city reflects the relationships between objects rather than objects themselves.

The ideal city proposed by modern urbanism projected "the reestablishment of an unadulterated natural setting;" nature was proposed to exist within the urban life.[184] Accordingly, buildings were proposed to be constructed having minimum contact with the ground and open on all sides and surrounded by landscape. They were regarded as detached objects within the city. As stated by Rowe and Koetter, "there is to be introduced a visible and rational equality of parts- an equality which insists upon openness and is readily to be interpreted as both cause and effect of any condition of humane well-being."[185] In other words, it was aimed to establish a "morally and hygienically" clean environment by the modernist planning in place of the existing urban context, (Figure 18-a, b).[186] Thus, within the city structure, there is no contribution of the buildings to the urban texture; that is why this situation is called an urban crisis and "predicament of the texture" by Rowe.[187]

[184] Colin Rowe and Fred Koetter, 1978, *Collage City* (Cambridge, Mass: MIT Press), p. 51.
[185] Ibid., p. 52.
[186] Ibid., p. 51.
[187] Ibid., p. 50. This phrase is taken from the title of third section; "Crisis of the Object: Predicament of Texture" of *Collage City by* Colin Rowe and Fred Koetter.

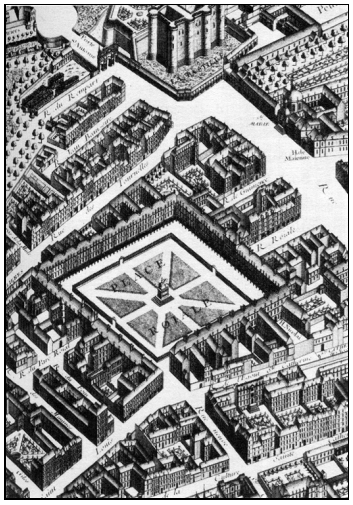


Figure 18 a- Place des Vosges (Place Royale), Paris, (1739).

Figure 18 b- Ville Radieuse, Le Corbusier, (1930).

> Modern architecture's object fixation (the object which is not an object) is our present concern only in so far as it involves the city, the city which was to become evaporated. For, in its present and unevaporated form, the city of modern architecture become a congeries of conspicuously disparate objects is quite as problematical as the traditional city which it has sought to replace.[188]

As a consequence of the modernist attitudes towards urbanism in late forties, consideration of the "city core" became a prominent issue which is best illustrated in Le Corbusier's proposal for St. Dié (Figure 19-a,b). But in spite of the revisionist attempts of modernism, "its failure to remain unreal like a stage set continued to persist."[189] Rowe clarifies this point by comparing Le Corbusier's proposal for St. Dié with Harlow New Town Square, (Figure 16-c):

[188] Ibid., p. 58.
[189] Ibid., p. 58.

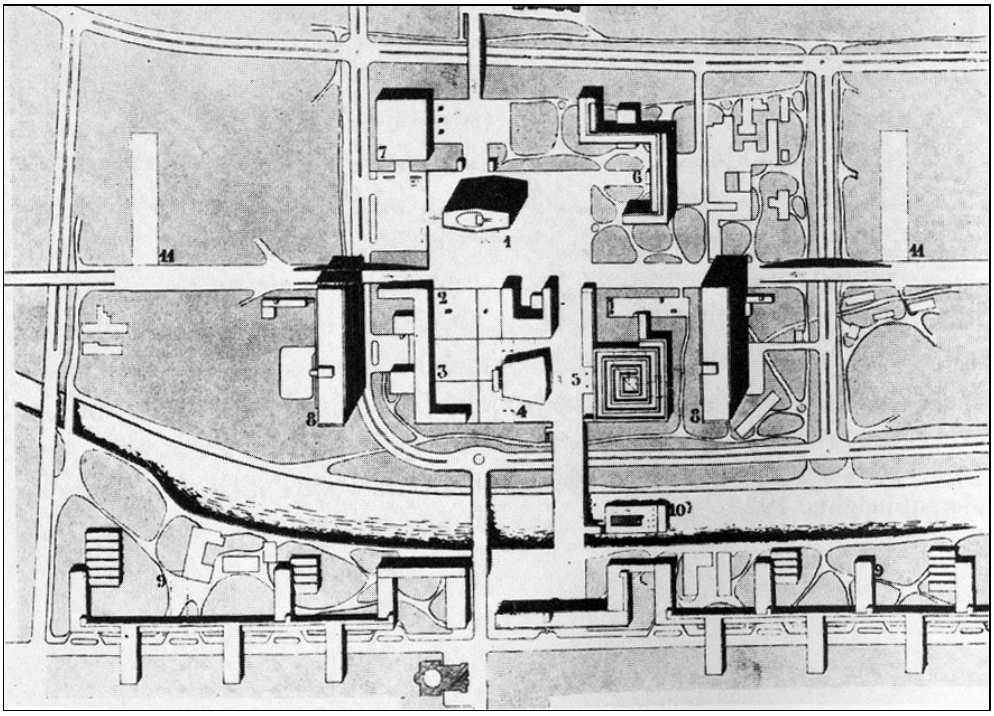


Figure 19-a Project for City Centre of Saint-Dié, Le Corbusier, (1945).

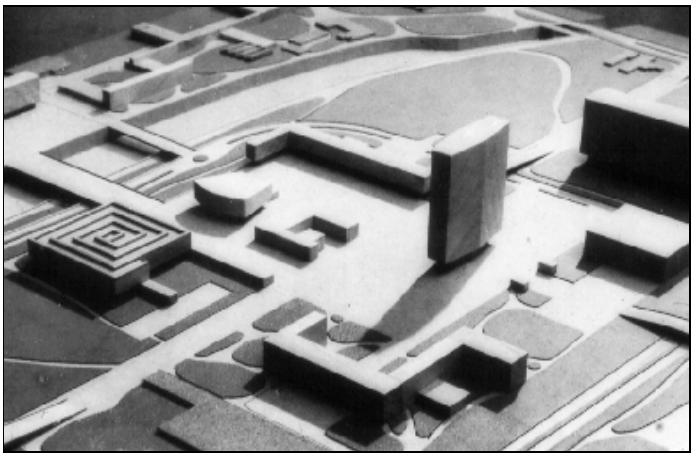


Figure 19-b Le Corbusier, St. Dié, 1945/46.

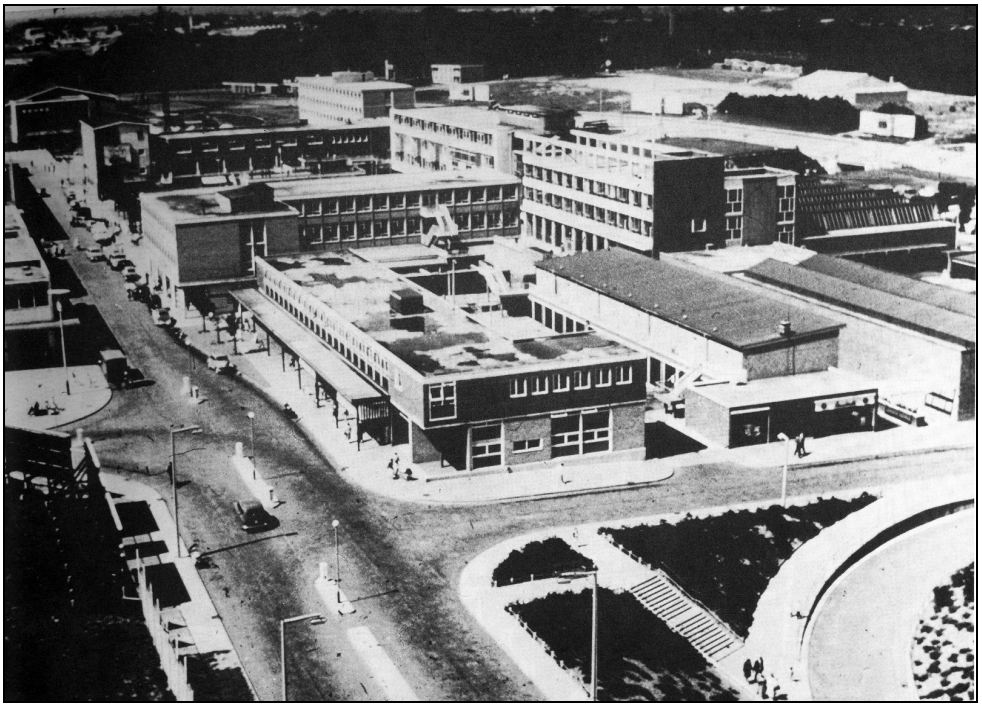


Figure 19 c- Harlow New Town, Market Square (1950).

> Loosely arranged (St. Dié) so as to insinuate some notions of centrality and hierarchy, to stimulate some version of "town centre" or structured receptacle... St. Dié illustrates the dilemma of the free standing building, the space occupier attempting to act as space definer... At Harlow, what one is being offered is a "real" and literal market place... the Harlow town square, supposed to be the authentic thing itself.[190]

Comparing St. Dié with traditional city in terms of relations of solids-voids in the urban context, results in different readings of urban texture, which point to different types of spatial organizations, (Figure 20-a, b).

[190] Colin Rowe and Fred Koetter, 1978, *Collage City* (Cambridge, Mass: MIT Press), pp. 58-61.

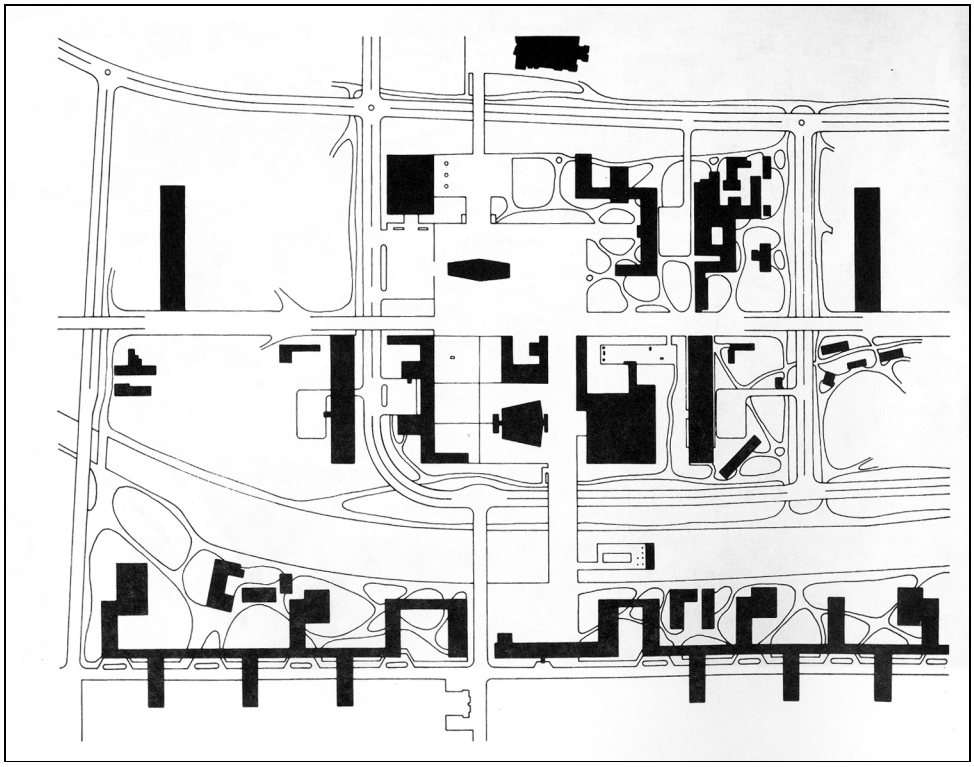


Figure 20 a- Project for City Centre of Saint-Dié, Le Corbusier, (1945).

Figure 20 b- Figure-Ground Plan, Parma.

> The one is almost all white, the other almost all black: the one an accumulation of solids in largely unmanipulated void, the other an accumulation of voids in largely unmanipulated solid; and in both cases, the fundamental ground promotes an entirely different category of figure-in the one *object*, in the other *space*.[191]

Rowe states:

> Perhaps the divorce of object from texture, the results of the abrupt proclamation of object and then the attempt, out of a repertory of idealized objects, to insinuate some version of town center as structured receptacle, could not be better illustrated than by Le Corbusier's plan for St.-Dié and its comparison with an aerial view of the Spanish town of Vittoria.[192]

Figure 21- Plaza Major, Vittoria.

Rowe depicts the traditional city by referring to Vittoria as "a wholly enclosed environment which is yet able to accept outside pressures and to deliver further pressures of its own, (Figure 21)."[193] However, at St.-Dié, "the dilemma of object-building" promoted by Modern architecture is exhibited, as

[191] Ibid., p. 62.
[192] Colin Rowe, "The Present Urban Predicament," ed. by Alexander Caragonne, 1996, *As I Was Saying*, *Recollections and Miscellaneous Essays Volume 3-Urbanistics* Cambridge, Massachusetts, London, England: The MIT Press, pp. 202-204.
[193] Ibid., p. 204.

the buildings are detached from the urban context, and abstracted from the outside pressures of the city. [194] Considering these examples, Rowe states that the contrasting aspects of these two attitudes can be best explained by comparing "a solid and void of almost identical proportions."[195] In this respect, he compares Le Corbusier's Unité d'Habitation at Marseilles and Giorgio Vasari's Galleria degli Uffizi at Florence (Figure 22-a, b). He claims, "If the Uffizi is Marseilles turned inside out, it is also void become figurative, active, and positively charged."[196] For the case of Vasari's Uffizi, Rowe states:

> A central void-figure, stable and obviously planned with, by way of entourage, an irregular backup which may be loose and responsive to close context: a stipulation of an ideal world and an engagement of empirical circumstance; unlike the Unité, the Uffizi may be seen as reconciling themes of self-conscious order and spontaneous randomness and, while it accepts the existing, by also proclaiming the new, the Uffizi may be said to confer a value upon new and old. Urbanistically it is far more active.[197]

The relation of solids and voids in modern and traditional city –in fact- reflects totally distinct approaches to social structure. For Rowe, while Marseilles promotes a "private and atomized society" enforcing its object quality, the Uffizi represents a more "collective structure" both as object and space definer.[198] That is, in modern city, where a building is considered as a solid compact figure in urban texture, there is less public communication. As in the case of Plan Voisin and/or Marseilles, Unité d'Habitation (1946) by Le Corbusier, the treatment of open space is identical and there is no response to the existing site.[199] On the contrary, in traditional city the mass of buildings creates a ground that facilitates close interaction between people and a

[194] Ibid., p. 204.
[195] Ibid., p. 204.
[196] Ibid., p. 208.
[197] Ibid., p. 208.
[198] Ibid., p. 208.
[199] See Le Corbusier's proposal for Moscow Project for the Palace of Soviets (1931), as an example of an attitude which has no response to the site.

collective social structure, as pointed out by Rowe and Koetter with reference to Uffizi, Florence example.

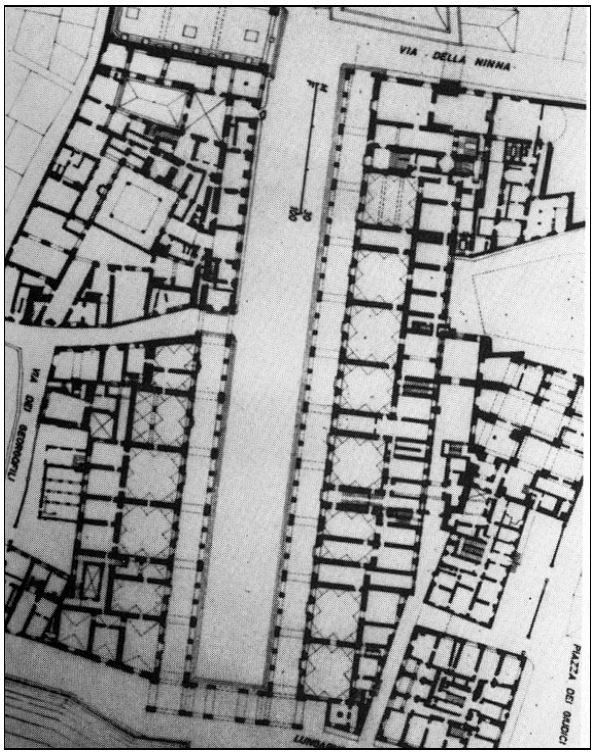


Figure 22 a- Florence, Uffizi, plan.

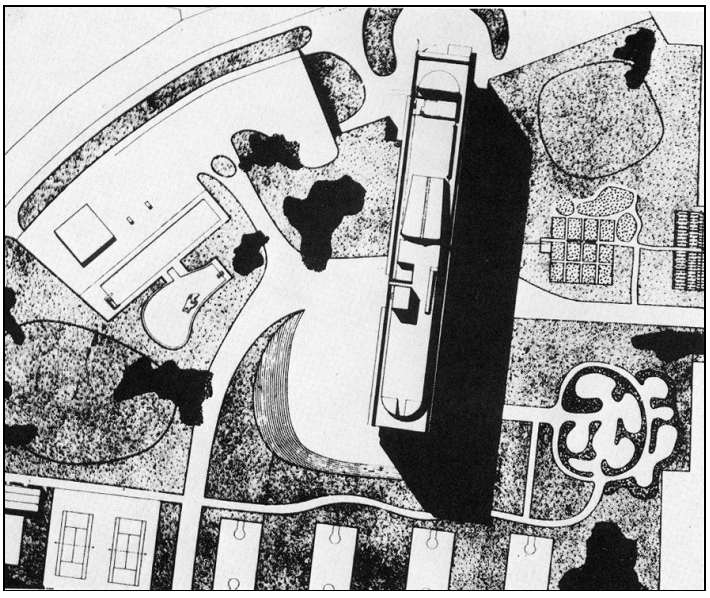


Figure 22 b- Le Corbusier : Marseille, Unité d'Habitation, 1946, site plan.

With reference to the comparison of the modern and traditional city in terms of the different treatments of "building mass," a very important observation is made by Rowe and Koetter; modern architecture rejects the symbolic, communicative aspects of buildings in the urban context.[200] In the traditional city, instead of the buildings, the unbuilt void takes the scene and, the buildings perform and communicate with the existing context as an infill in the urban texture. As a summary of the article "Crisis of the Object: Predicament of Texture" Rowe and Koetter state:

> It is here proposed that rather than hoping and waiting for the withering away of the object... it might be judicious, in most cases, to allow and encourage the object to become digested in a prevalent texture or matrix. It is further suggested that neither object nor space fixation are, in themselves, any longer representative of valuable attitudes. The one may, indeed, characterize the 'new' city and the other the old; ...the situation to be hoped for should be recognized as one in which both buildings *and* spaces exist in an equality of sustained debate. A debate in which victory consists in each component emerging undefeated, the imagined condition is a type of solid-void dialectic which might allow for the joint existence of the overtly planned and genuinely planned, of the set-piece and the accident, of the public and the private, of the state and the individual.[201]

Rowe and Koetter include in their solid-void analyses with reference to figure-ground principles, two ancient urban typologies as contrasting models; "acropolis" versus "forum."[202] For them, while ancient Greek acropolis stands as a group of solid objects in the urban void, Roman forum creates an urban void within the continuous urban solid, (Figure 23-a, b, 24). In other words, in Rome, within the solid mass of buildings that constitutes a continuous ground, the urban voids are interpreted as figures. The Forum of Trojan in Rome and Uffizi Palace in Florence are two examples of such urban voids that are perceived as figures within the urban structure, where the contextual forces of

---

[200] Colin Rowe and Fred Koetter, 1978, *Collage City* (Cambridge, Mass: MIT Press), p. 65.
[201] Ibid., p. 83.
[202] Ibid., p. 83.

the city concentrate, (Figure 18). In the case of ancient Greek acropolis, the acropolis as a group of three dimensional solid objects is perceived and interpreted as figures within a continuous urban void as the ground, (Figure 23 b).

Figure 23 a- Ancient Greek Acropolis, Athens. As seen in this photograph, acropolis as the solid object is perceived three-dimensionally as the figure within the urban structure.

Figure 23 b- View of Acropolis from the city center, Athens.

Figure 24 a- The Roman forum; The Forum of Trojan in Rome.

Figure 24 b- Relation between solids and voids in the urban texture of Rome.

As it is mentioned, the figure-ground is defined as a field condition in which forces are inhomogeneously distributed and concentrated at certain locations within the field. It may be stated that, figure-ground condition in the traditional city, which emerge from the dialectical relationship between solids and voids, may be defined as a field condition that will be discussed in detail in the following parts of the research. Rowe and Koetter's analyses are unique examples that reveal the relevance of the field concept and Gestalt principles for understanding the structures of the traditional and modern cities.

The Contemporary City

Recently, the concept of field has started to occupy a significant place in the fields of architecture and urbanism. Here I would like to dwell on the

conditions that have rendered the concept of field in architecture and urbanism so important. Actually, it is basically related with the challenges of metropolitan cities and metropolitan culture. As Saskia Sassen states in her book *The Global City*, a new world order and new types of organizational urban structures have become dominant due to the advances in telecommunications, information technologies and infrastructural networks, and their increasing influence in the formation of contemporary metropolitan cities.[203] Referring to the changes in the world economy by the late 20th century, Alejandro Zaera Polo states in his article, *Order out of Chaos: the Material Organization of Advanced Capitalism*, that "urban topographies entered a period of radical restructuring which characterizes the production of space to the present day."[204] Accordingly, he claims that in this period of restructuring, there have been certain transformations in the fields of politics, culture, communication and information technologies, which have also affected and transformed formation of contemporary cities.[205]

Polo makes a comparison between the modern and contemporary cities and remarks that while modern city had a "stability of the economic and productive structure, the homogeneity of the constructive techniques and the uniformity of the social composition," which were reflected as "stable, homogeneous, continuous and hierarchic spatial and material organizations," the contemporary city is characterized by "the incoherent coexistence of social groups, economies, technologies, and the growing importance of flows and exchange processes."[206]

---

[203] Saskia Sassen, 2001, *the Global City: New York, London, Tokyo* (Princeton and Oxford: Princeton University Press), p. xvii-xviii.
[204] Alejandro Zaera Polo, 1994, "Order out of Chaos: The Material Organization of Advanced Capitalism," *AD Architectural Design Profile, The Periphery* Vol. 108, p. 25.
[205] Ibid., p. 25.
[206] Ibid., p. 25.

Since this study also focuses on the emerging urban processes and architectural practices taking place in contemporary metropolis in light of the field concepts, what Alex Wall argues is relevant within the frame of this study. The contemporary metropolis has a multiple, complicated and indeterminate structure; this urban structure cannot be studied by means of traditional and familiar urban typologies and readings. In his article *Programming the Urban* Surface Alex Wall states:

> Much of the reason for revising practices of landscape and urbanism today derives from the changing nature of cities. The traditional notion of the city as a historical and institutional core surrounded by postwar suburbs and then open-countryside has been largely replaced by a more polycentric and weblike sprawl: the regional metropolis. Here, multiple centers are served by overlapping networks of transportation, electronic communication, production and consumption. Operationally, if not experientially, the infrastructures and flows of material have become more significant than static political and spatial boundaries. The influx of people, vehicles, goods, and information constitute what urban geographers call the "daily urban system," painting a picture of urbanism that is dynamic and temporal. The emphasis shifts here from *forms* of urban space to *processes* of urbanization, processes that network across vast regional –if not global- surfaces.[207]

Wall says that, there are three important effects of what he calls "modern urbanization" with regard to planning and design today: first, the rise of new kinds of urban sites, which are "the ambiguous areas that are caught between enclaves."[208] Wall describes these new kinds of urban sites as follows; "these might be called *peripheral sites,* middle landscapes that are neither here nor there, and yet are so pervasive as to now characterize the dominant environment in which most people actually live."[209] The second prominent effect of "modern urbanization" is "a remarkable increase in mobility and access," which refers to "the rising density of population, the

[207] Alex Wall, "Programming the Urban Surface," In James Corner (ed.), 1999, *Recovering Landscape: Essays in Contemporary Landscape Architecture* (New York: Harper and Brothers Publishers), p. 234.
[208] Ibid., p. 234.
[209] Ibid., p. 234.

increased instability of capital and investment, and to the abundance of information and media."[210]

What Wall states as the third effect of "modern urbanization," which is a consequence of the first two effects mentioned above is a change in the way cities are viewed. He observes that cities are now approached not in formal terms, but in dynamic ways.[211] Thus, he says:

> Familiar urban typologies of square, park, district and so on are of less use or significance than are the infrastructures, network flows, ambiguous spaces, and other polymorphous conditions that constitute the contemporary metropolis. Unlike the treelike, hierarchical structures of traditional cities, the contemporary metropolis functions more like a spreading rhizome, dispersed and diffuse, but at the same time infinitely enabling. [212]

Wall also introduces the concept of "urban surface," which is significant for the urbanization processes and architectural practices of the contemporary metropolis. It "signals a shift of emphasis from the enclosed objects to the design and manipulation of large urban surfaces within the city."[213]

Wall describes what he calls for "landscape as urban surface" referring to the extensive "ground-plane of the city," which is "the ground structure that organizes and supports a broad range of fixed and changing activities in the city."[214] That is, it is like a "field" accommodating different functions, geometries, building roads, open spaces, neighborhoods, and natural habitats as changing circumstances demand.[215] Departing from this observation, Wall elucidates the concept of "landscape as urban surface" as a strategy to be followed in the contemporary urbanization processes:

---

[210] Ibid., p. 234.
[211] Ibid., p. 234.
[212] Ibid., p. 234.
[213] Ibid., p. 233.
[214] Ibid., p. 233.
[215] Ibid., p. 233.

> We are witnessing a recovery of certain landscape themes and techniques that seem to have particular applicability to these problems. First, of course, landscape is the horizontal and continuous surface, the field that is best apprehended in maps and plans. Here, plans are of particular significance because they organize the relationships among parts and activities; all things come together on the ground. But a second use of landscape is the attention it draws to processes of formation and thus to issues of temporality, efficacy, and change.[216]

Referring to contemporary urbanization processes and current architectural practices, Wall states that "the function of design is not only to make cities attractive but also to make them more adaptive, more fluid, and more capable of accommodating changing demands and unforeseen circumstances."[217] As he claims:

> In the aftermath of the 1980s building boom, the potential and significant field of action today is less the design of monuments and master plans than the careful modification and articulation of the urban surface. The surface is manipulated in two ways: as planar folds and smooth continuities and as a field that is grafted onto a set of new instruments and equipment. In either case, the surface becomes a staging ground for the unfolding of future events. The surface is not merely the venue for formal experiments but the agent for evolving new forms of social life.[218]

Alejandro Zaera Polo too states that in the contemporary city, urban structure has started to be determined by new conditions of urban development.[219] As he indicates, by the late 20th century, contemporary cities display a complex, mixed and chaotic urban development, where infrastructural systems of services and transportation lines play a determining role in the development of urban structure.[220] By the term infrastructure, it is meant service, movement and communication networks, which will be

---

[216] Ibid., pp. 246-247.
[217] Ibid., p. 246.
[218] Ibid., p. 247.
[219] Alejandro Zaera Polo, 1994, "Order out of Chaos: The Material Organization of Advanced Capitalism," *AD Architectural Design, Architectural Design Profile, The* Periphery Vol. 108, p. 25.
[220] Ibid., p. 25.

discussed in detail in the next part of the study with reference to what Stan Allen calls "infrastructural urbanism."[221]

The possibilities of creating an urban field, where homes, offices, factories, and shopping malls are organized as mixed-use and complicated urban structures have been developed in contemporary cities. Thus, there is a transformation in the architectural practices, which favors big scale, multi-use, indeterminate and flexible building organizations in place of traditional building typologies.[222] Sarkis states:

> The present fascination has no doubt been triggered by the changes in development culture, particularly by the ever-growing scale of institutions (such as hospitals and schools) and commercial facilities (such as airports and malls). Increasingly developers are also seeking architects to help give form to new programs that have yet to settle on a distinctive type: airport/ park/ shopping mall or housing/ retail/ institution. In response perhaps evasively, architects are seeking ways in which a building could act as a flexible framework rather than a rigid container or these shapeless functions. Avoiding what Stan Allen here refers to as "overall geometric form," today's architects proceed to define buildings that could "give space to the active unfolding of urban life without abrogating the architect's responsibility to provide some form of order.[223]

Thus, while solids can be perceived as ground supporting the urban voids as figures in the figure-ground reading of the traditional city; in the contemporary city, buildings have tended to become a part of the urban field. Allen mentions, "we move from the one toward the many, from objects to field" within the new definition of urban context.[224] As stated by Lynn, "urban field is understood as dynamic and characterized by forces rather than forms."[225] In other words, while urban questions have usually been questions of large-scale form or fabric, in the case of contemporary city, instead of

---

[221] Stan Allen, 1999, *Points and Lines: Diagrams and Projects for the City* (New York: Princeton Architectural Press), p. 46-47.
[222] Ibid., p. 14.
[223] Ibid., p. 14.
[224] Ibid., p. 14.
[225] Greg Lynn, May-June 1997, "An Advanced Form of Movement," *Architectural Design* Vol. 67, p. 54.

form, patterns of organizations have become important in urban scale. As stated by Lynn, "It is necessary that architects begin to design using dynamic simulation systems of urban forces and fields."[226]

Infrastructural Urbanism

> This is the context within which I want to situate the shift in the recent practice toward infrastructure. Going beyond stylistic or formal issues, infrastructural urbanism offers a new model for practice and a renewed sense of architecture's potential to structure the future of the city.[227]

An important aspect of the condition of contemporary metropolis, which needs to be further discussed in detail with reference to the reemerging field concept in urban and architectural development of the contemporary city, is the development infrastructural networks playing an effective role in the structuring of the contemporary city.

As it has already been mentioned, referring to the figure-ground relationship in the urban structure, Rowe and Koetter make a comparison between traditional and modern cities. In the traditional city, urban voids that are clearly defined by the solid matrix are perceived as discrete elements; thus, they become focal points within the urban layout taking their strength from the continuous solid. The ground –the continuous solid- is defined to be the supporting matrix that lifts figures into prominence in the figure-ground relationship of the traditional city.

In the case of contemporary city, with reference to Rowe and Koetter's definition of figure-ground condition of traditional city, infrastructural

---

[226] Ibid., p. 54.
[227] Stan Allen, 1999, *Points and Lines: Diagrams and Projects for the City* (New York: Princeton Architectural Press), p. 52.

networks are to be defined as carrying out the role of the ground. Infrastructural networks providing complex systems of flow and movement turn out to be the supporting matrix within the urban field and allow the occurrences of "moments of intensity, as peaks or valleys within a continuous field."[228]

In such a context, architectural objects have become digested in the prevailing matrix of the urban field in which the infrastructural networks affect the force-field relationships; that is, the architectural objects tend to become a part of the urban field. Infrastructural networks have already been the main form of exchange within the collective structure of the city. As stated by Alejandro Zaera Polo, in contemporary cities, "the urban territory is determined by the topological continuity of the infrastructures, rather than through the geometric pattern of the fabric" and "spatial boundaries are becoming increasingly irrelevant".[229] Within this perspective, Stephen Graham and Simon Marvin state:

> Fundamentally, infrastructure networks are thus widely assumed to be integrators of urban spaces. They are believed to bind cities, regions and nations into functioning geographical or political wholes. Traditionally, they have been seen to be systems that require public regulation so that they somehow add cohesion to territory, often in the name of some 'public interest.'[230]

As mentioned by Stan Allen, "infrastructure accommodates a practice not devoted to the production of autonomous objects, but rather to the production of directed fields in which program, event, and activity can play

---

[228] Ibid., p. 97.
[229] Alejandro Zaera Polo, 1994, "Order out of Chaos: The Material Organization of Advanced Capitalism," *AD Architectural Design, Architectural Design Profile, The Periphery* Vol. 108, p. 27.
[230] Stephen Graham and Simon Marvin, 1996, *Telecommunications and the City: Electronic Spaces, Urban Places* (New York: Routledge), p. 2.

themselves out."[231] Thus, architecture of the city adapts itself to the development of infrastructures. Infrastructure establishing a continuous network facilitates the creation of directed fields within the city. This is how the city moves from "individual expression" to the "collective enunciation," and a field condition comes out.[232]

Since a field condition accommodates an overall continuity within the whole, infrastructural networks are to be regarded as the instruments to facilitate continuity within the urban field. But as a dynamic whole, this continuous urban field cannot be characterized by a single definite principle that could be valid for all conditions in the city. In other words, while having continuity in the urban field, infrastructural networks in the urban structure accommodate "local contingencies," in response to the irregular local conditions; accordingly an inhomogeneous condition is created within the urban field.[233]

Development of the infrastructural networks with the local irregular conditions results in local transformations in the architectural practices. Polo claims that as a result of these local irregular conditions, there is a loss of typological definitions within the urban context.[234] He states that in the contemporary city, "urban events become less understandable through typological definitions: when the integrating ability of urban structure has disappeared, urban events develop into devices of local accumulation."[235] In such a situation, he defines "hybrids" as "devices for local accumulation" and

---

[231] Stan Allen, 1999, *Points and Lines: Diagrams and Projects for the City* (New York: Princeton Architectural Press), p. 52.
[232] Ibid., p. 55.
[233] Ibid., p. 55.
[234] Alejandro Zaera Polo, 1994, "Order out of Chaos: The Material Organization of Advanced Capitalism," *AD Architectural Design, Architectural Design Profile The Periphery* Vol. 108, p. 27.
[235] Ibid., p. 27.

"complex programmatic structures."[236] He states, "Where urbanity is constituted as a *discontinuous* and *non-organic essence,* the 'hybrid' becomes the 'quantum' of urbanity."[237] That is, Polo proposes that the complicated nature of contemporary city can be analyzed through the study of these hybrids, rather than scale, metric distance, centre-periphery gradients, public-private structure, inside-outside boundaries, etc.[238] Accordingly, the new urban topography is structured as a multiplicity of centers of urban density; "Each point on the territory is determined by a superposition of laws whose affects cannot be analyzed as linear functions. Hybrids are to complex processes what types are to linear processes."[239]

Thus, for Polo, rather than establishing a uniform typological pattern for architectural development, a new logic where there is no unifying typology in the urban layout must be established.[240] Accordingly, new hidden qualities, which form newly emerging terms and produce visible effects within inhomogeneous infrastructural networks should be considered.[241]

Within the framework drawn in this part of the study on the contemporary city, the concept of field may be reconsidered with reference to the infrastructural networks within the urban structure, which create a directed field within the urban context. Accordingly, the infrastructural networks of the city play a determining role for the formation of a dynamic urban field within the city structure. As Stan Allen states, "infrastructure prepares the ground for future building and creates the conditions for future events."[242] That is, it may be stated that infrastructure actually creates a

---

[236] Ibid., p. 27.
[237] Ibid., p. 27.
[238] Ibid., p. 27.
[239] Ibid., p. 27.
[240] Ibid., p. 27.
[241] Ibid., p. 29.
[242] Stan Allen, 1999, *Points and Lines: Diagrams and Projects for the City* (New York: Princeton Architectural Press), p. 54.

"directed field" within urban structure, which results in a "move away from the representational imperative in architecture."[243]

Another reason for relating the notion of infrastructure with the field concept is the fact that the term "field" also refers to "a piece of open or cleared land, especially one suitable for pasture or tillage."[244] That is, it is possible to mention the field work as being closely related to site work; "to denote an investigation, study, etc., carried out in the natural environment of a given material, language, animal, etc., and not in the laboratory, study, or office; also, to denote a person taking part in such an activity, as *field archeologist*, *naturalist*, etc."[245] It involves the engagement with the physical conditions of the site work including many site specific conditions while being "in contact with the fabric of architecture."[246] For Allen, "field" implies "acceptance of the real and in all its messiness and unpredictability."[247] Actually, field is the place where the interactive force-field relationships are observed and unforeseen conditions as a result of such interactive relationships are produced. As stated by Allen, "field conditions treat constraints as opportunity and moves away from a Modernist ethic -and aesthetics- of transgression. Working with and not against the site, something new is produced by registering the complexity of the given."[248] In this respect, infrastructure as a medium of the urban field accommodates the materiality of the field work. As Allen states;

---

[243] Ibid., p. 52.

[244] Webster's II New Riverside Dictionary, s.v. "field."

[245] Merriam-Webster Online Dictionary, s.v. "field." [Internet, WWW], ADDRESS: http://www.m-w.com/cgi-bin/dictionary [Accessed: December 2003].
[246] Stan Allen, 2001, "Field Conditions," [Internet, WWW], ADDRESS: http://dvw.architektur.uni-stuttgart.de/pages/sc/main/home_subnav/allen/allen.html [Accessed: 21 November 2003].
[247] Ibid.
[248] Ibid.

> Infrastructural urbanism understands architecture as *material* practice- as an activity that works in and among the world of things, and not exclusively with meaning and image. It is an architecture dedicated to concrete proposals and realistic strategies of implementation and not distanced commentary or critique. It is a way of working at the large scale that escapes suspect notions of master planning and heroic ego of the individual architect. Infrastructural urbanism marks a return to instrumentality and a move away from the representational imperative in architecture.[249]

> Infrastructure works not so much to propose specific buildings on given sites, but to construct the site itself. Infrastructure prepares the ground for future building and creates the conditions for future events. Its primary modes of operation are: the division, allocation, the construction of surfaces; the provision of services to support future programs; and the establishment of networks for movement, communication and exchange.[250]

Within the new conditions of infrastructural urbanism, there is a tendency towards a more complex integration with the practical conditions of the field work in the architectural design process.

Consequently, contemporary city as a field turns out to be a dynamic whole; considering its many irregular local conditions, it becomes impossible to define it with simple geometrical orders. What is called local irregular conditions are units segregated from the rest of the field; each of these units establishes their specific distribution of forces, which are assumed to cause inhomogeneity within the overall field. These local irregularities have their own unity and segregation because of the discontinuity at their boundaries. Whereas it does not mean that such units are isolated from the interactions of forces within the field. On the contrary, units are still the part of the network of urban field, because what makes a unit with its specific distribution of forces is its interaction with the forces in the rest of the field through infrastructural networks, by which the overall continuity of the urban field is established. Thus, in the overall city we do not recognize local conditions as irregularities within the whole, but we perceive an overall pattern of urban fabric.

---

[249] Stan Allen, 1999, *Points and Lines: Diagrams and Projects for the City* (New York: Princeton Architectural Press), p. 52.
[250] Ibid., p. 54.

Cases of Contemporary Urbanism

Here, it deserves mentioning a project proposed by Koolhaas in 1987 for the new town of Melun-Senart, France, which is constructed on the existing traditional urban layout. For Wall, this project "…reverses the formal and structural roles of figure and ground, building and open space," hence the figure-field organization of the traditional city is the departure point of the project.[251] Here the voids are in conformity with Rowe and Koetter's definition of urban voids within the traditional city, as figures serving as points of attraction. It is stated by Wall, "rather than concentrating on the planning and arrangement of buildings, variously programmed voids are outlined."[252] As Wall points out:

> The voids exercise a greater effect on the subsequent built environment than does the design of particular building layouts. They provide a resilient structure that can withstand the unpredictable political and economic pressures that architects and urban designers are rarely able to influence. Melun-Senart continues a logic that progressively reverses the significance normally attached to buildings and directs attention instead to the spaces in between.[253]

[251] Alex Wall, "Programming the Urban Surface," In James Corner (ed.), 1999, *Recovering Landscape: Essays in Contemporary Landscape Architecture* (New York: Harper and Brothers Publishers), p. 234.
[252] Ibid., p. 234.
[253] Ibid., p. 234.

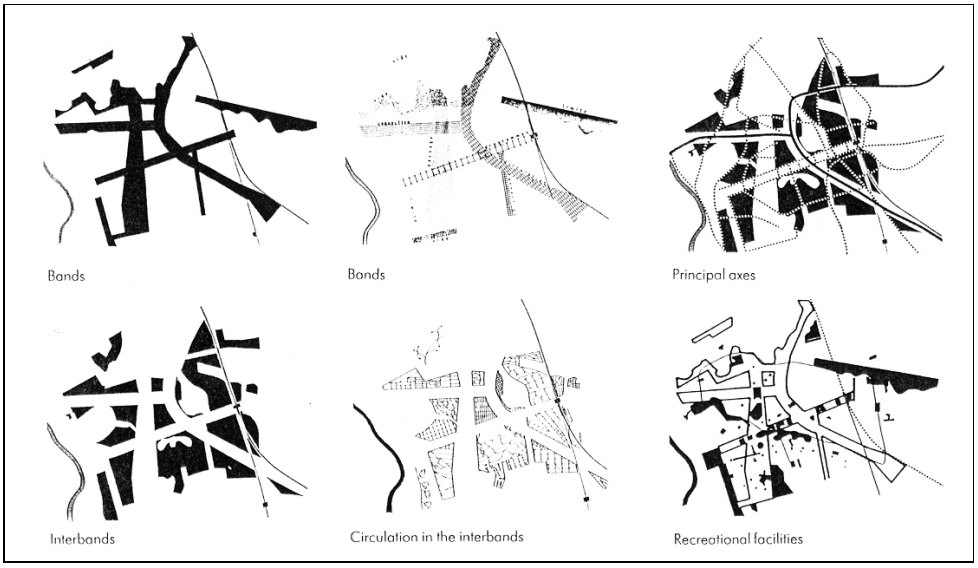


Figure 25 a- Diagrams with the elements of the project.

Thus, as a project in the contemporary era, Melun-Senart could be defined as a continuation of the principles of traditional city which lead to a figure-field condition, (Figure 25 a).

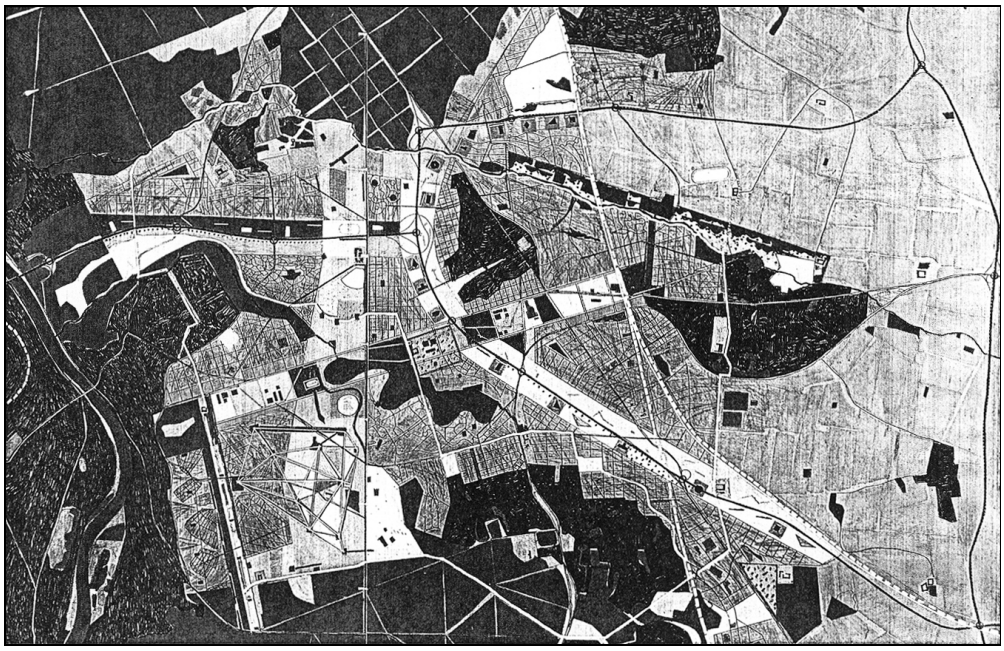


Figure 25 b- Site plan with the various functional bands.

On the other hand, since urban voids are loaded with programmatic units and solids are left open and indeterminate; a mixed condition of solids and voids is envisaged for the future development of the city. Thus, besides being developed with reference to the figure-field organization of the traditional city, Melun-Senart project can also be defined as a catalyst of transformation process from figure-field to field-field organization of the urban context, (Figure 25 b).

Another extreme state of field phenomenon may be explicated by a few contemporary examples of architecture. We find these examples in Timothy Hyde's article "How to Construct an Architectural Genealogy." In this article, Hyde refers to Alison Smithson's genealogy of mat-building by extending its arguments into the current debates on architecture.[254] He brings forth various examples of "mat-building" and "mat urbanism" between 1950s and the present. Some of these examples may be considered to present a field-field organization or to be designed according to field-field analysis of the urban contexts in which they exist.

[254] Timothy Hyde, "How to Construct an Architectural Genealogy," in Hashim Sarkis (ed.), 2002, *Le Corbusier Venice Hospital* (Prestel USA), pp. 104-117.

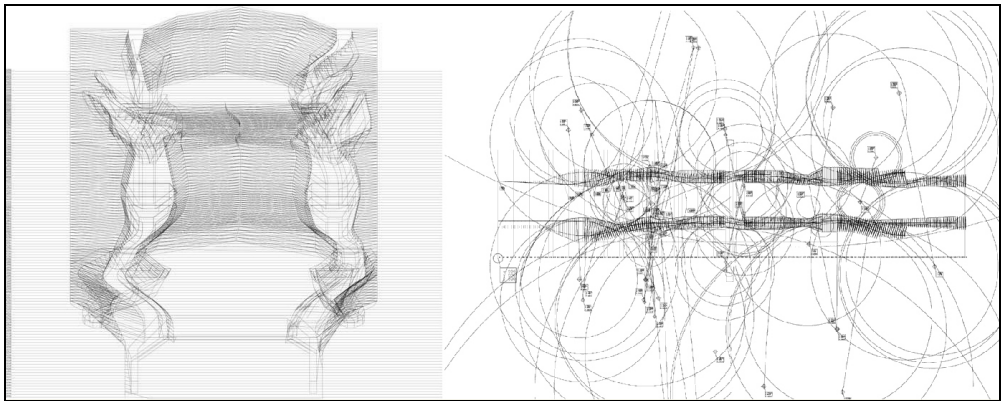


Figure 26 a, b- Yokohama Port Terminal, Foreign Office of Architects, 1994. "Deflections in the slabs and continuous circulation form tangled connections between disparate programs, calibrating but not legislating their relationships."

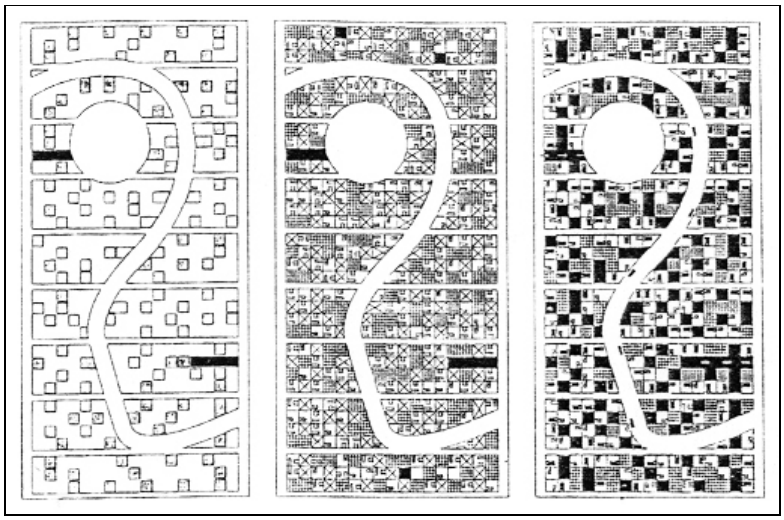
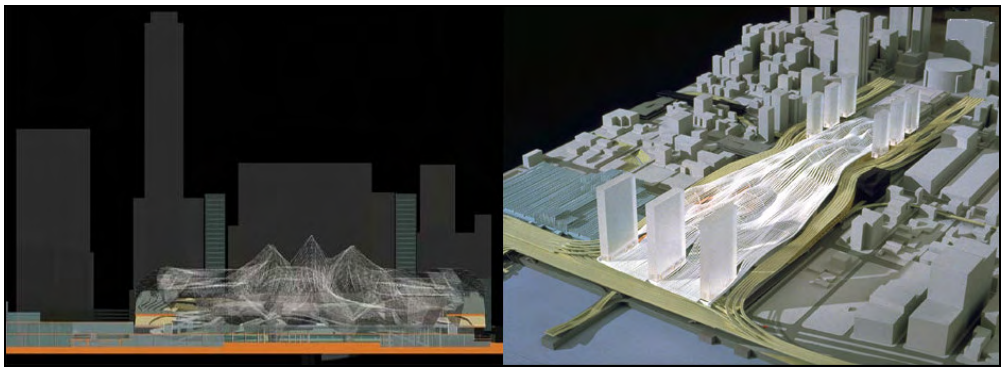


Figure 27- Low Rise Housing, Kazuyo Sejima, 1996.



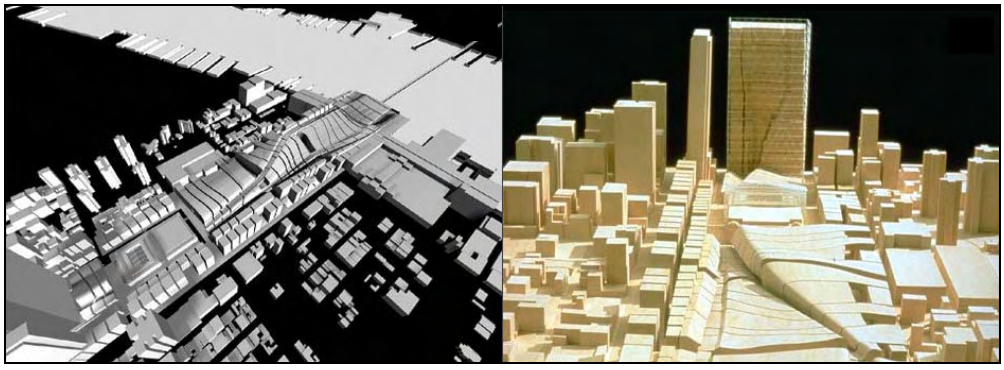


Figure 28 a, b- CCA Design of Cities Competition, New York, Reiser + Unemoto, Eisenman, 1999. "Two projects, one a matted building, the other better described as a matted surface, dissolve the distinction between figure and ground in a coalescence of program, infrastructure, circulation and time… matted building made visible."

The projects mentioned above to clarify the field-field organization in architecture and urbanism display an extreme condition that is still new in the current practice of architecture and urbanism.

CHAPTER 6

CONCLUSION

This study is an inquiry into the concept of "field" as it has been employed in architectural theory and practice. As stated throughout the research, the concept of field in current architectural theory and practice has been invoked in this study as a conceptual tool that allows to interrogate some traditional conceptions of architecture, and to explore new possibilities. By discussing definitions of field concepts in different disciplines, it is aimed to reveal and understand the significance of the concept of field in current theory and practice of architecture and urbanism. Thus, in order to clarify the use of this term in architectural design theory, the diverse meanings of this concept in other fields are explored.

For elucidating the concept of field in the context of contemporary urbanism with reference to Gestalt theory, it seemed essential to understand Rowe and Koetter's analysis of traditional and modern cities utilizing their method of figure-ground reading.

In Gestalt, since the perception of figures on the ground is due to dynamic organization of forces that are inhomogeneously distributed within the surface and cause perception of figures, the figure-ground relationship is defined as a field condition. Accordingly, a clear perception of a figure-ground relationship points to an extreme state in field phenomenon. However, due to the level of complexity of the whole, inhomogeneous distribution of forces and

intensification of energy at certain locations do not necessarily lead to, a clear perception of figures.

Rowe and Koetter distinguish the traditional and modern cities by means of the configurations of urban layouts by means of their figure-ground analysis. The relationship between the concepts of ground and field elaborated in their work was brought into discussion. In the traditional city, urban void that is clearly defined by a solid matrix becomes the figure taking its strength from its ground –the continuous solid- which can be defined as a field lifting up the figure into prominence within the whole. On the other hand, the urban void emerges as a figure by serving as a point of attraction and concentration of contextual forces within the continuous solid, so that it becomes a focal point of close interaction between people and the collective structure.

It may be argued that the traditional city with its characteristic figure-ground organization and determinate urban typologies, and the contemporary city with its characteristic field-field organization and complicated and indeterminate structure, correspond to extreme cases of field phenomenon. In other words, figures on a field may be regarded as field on field in contemporary city because of the complexity in the organization of figures.

Contemporary cities can no longer be depicted in terms of static figure-ground relationships. In the face of their complex and chaotic development, it is possible to observe a tendency to approach them as dynamic field-field organizations. But the shift from figure-field to field-field organizations has to be regarded as an outcome of a process of gradual transformation.

Within the scope of this study, architecture and urbanism with reference to the field concept, and two extreme conditions of field phenomenon are discussed. The first is the characteristic figure-ground

organization of the traditional city and that of the modern city, and the other is the field-field organization that characterizes the practice of architecture and urbanism today. It may be concluded that there is a process of transformation from the figure-ground organization of the traditional and modern cities towards field-field condition of contemporary city. Defining the city as an urban field, development of cities and projects of contemporary architecture and urbanism may be approached in terms of two extreme states of field phenomenon: figure-ground and field-field.

BIBLIOGRAPHY

Alexander, Christopher. 1970. *Notes on the Synthesis of Form.* 5th ed. Cambridge, Massachusetts: Harward University Press.

Allen, Stan. 1999. *Points and Lines: Diagrams and Projects for the City.* New York: Princeton Architectural Press.

_____ May-June 1997. "From Object to Field." *Architectural Design* Vol. 67, pp. 24-31.

_____ 2001. "Field Conditions." [Internet, WWW]. ADDRESS: http://dvw.architektur.uni_stuttgart.de/pages/sc/main/home_subnav/allen/allen.html [Accessed: 21 November 2003].

_____ 1998. "Diagrams Matter." *ANY Magazine* Diagram Work. No: 23. pp. 16-19.

_____, Saul Ostrow, and Diana I. Agrest. 2000. *Practice: Architecture, Technique and Representation (Critical Voices in Art, Theory, and Culture).* Routledge.

Arnheim, Rudolf. 1977. *The Dynamics of Architectural Form.* London: University of California Press, Ltd.

Ash, Mitchell G. *Gestalt psychology in German culture, 1890-1967*. Cambridge University Press.

Behrens, Roy R. 1998. "Art, Design and Gestalt Theory." [Internet, WWW]. ADDRESS: http://mitpress2.mit.edu/ejournals/Leonardo/isast/articles/behrens.html [Accessed: 29 November 2003].

Carpenter, Rebecca. "Force Affect, an Ethics of Hypersurface." in Giuseppa Di Cristina (ed.), 2001. *Architecture and Science.* London: Artmedia Press Ltd., pp. 219-223.

Cartwright, Dorwin. "Foreword." In Dorwin Cartwright (ed.). 1951. *Field Theory in Social Science.* New York: Harper and Brothers Publishers, pp. vii-xv.

Durand, Fredo. 1999. "Gestalt and Picture Organization." [Internet, WWW, PDF]. *Available:* Available in .PDF format; ADDRESS: http://graphics.csail.mit.edu/~fredo/SIG02_ArtScience/siggraph_Gestalt_talk6.pdf . [Accessed: 06 January 2003].

Eloueini, Ammar. "The Roppogni, Tokyo." In Giuseppa Di Cristina (ed.). 2001. *Architecture and Science*. London: Artmedia Press Ltd, pp. 136-137.

Graham, Stephen and Simon Marvin. 1996. *Telecommunications and the City: Electronic Spaces, Urban Places.* New York: Routledge.

Jormakka, Kari. 18 August 2001. "Schnelligkeit der Architektur." [Internet, WWW, PDF]. *Available:* Available in .PDF format; ADDRESS: http://www.alpbach.org/englisch/forum2001en/Architekturgespraeche%20Kari%20Jormakka.pdf . [Accessed: 11 January 2003].

Kepes, Gyorgy. 1949. *Language of Vision.* Chicago: Paul Theobold.

Koffka, Kurt. 1978. *Principles of Gestalt psychology.* New York: Harcourt, Brace and World, Inc.

Koolhaas, Rem, Stefano Boeri, Sanford Kwinter, Nadia Tazi, and Daniela Fabricius. 2001. *Mutations.* Actar.

Kwinter, Sanford. "La Citta Nuova: Zone ½ Modernity and Continuity." In K. Michael Hays (ed.). 1998. *Architecture theory since 1968.* Cambridge, Massachusetts. : MIT Press, pp. 586-614.

Lewin, Kurt. 1936. *Principles of Topological Psychology.* Fritz Heider and Grace M. Heider (trans.). New York: Mc Graw-Hill Book Company.

_____ "Defining the Field at a Given Time (1943)." In Dorwin Cartwright (ed.). 1951. *Field Theory in Social Science*. New York: Harper and Brothers Publishers, pp. 43-60.

Lynn, Greg. May-June 1997. "An Advanced Form of Movement." *Architectural Design* Vol.67, pp. 54-55.

Mumford, Eric. 2001. "Urban Design: Practices, Pedagogies, Premises: From CIAM to Collage City: Postwar European Urban Design and American Urban Design Education." [Internet, WWW, PDF]. *Available:* Available in .PDF format; ADDRESS: http://www.vanalen.org/forums/graphics/Briefing%20Materials.pdf . [Accessed: 3 August 2003].

_____ "The Emergence of Mat or Field Buildings." In Hashim Sarkis (ed.). 2002. *Le Corbusier Venice Hospital.* Prestel USA. pp. 48-65.

Polo, Alejandro Zaera. 1994. "Order out of Chaos: The Material Organization of Advanced Capitalism." *AD Architectural Design, Architectural Design Profile, The Periphery,* Vol. 108, pp. 25-29.

Rowe, Colin and Fred Koetter. 1978. *Collage City*. Cambridge, Mass: MIT Press.

____ "Transparency: Literal and Phenomenal, Part II." In Alexander Caragonne (ed.). 1996. *As I was saying: Recollections and Miscellaneous Essays. Volume 1.* Cambridge, Massachusetts, London, England: MIT Press, pp. 73-106.

____ "The Present Urban Predicament." *As I Was Saying. Recollections and Miscellaneous Essays, Volume 3- Urbanistics.* In Alexander Caragonne

(ed.). 1996. Cambridge, Massachusetts, London, England: The MIT Press.

Rummel, Rudolph J. 28 November 2002. "Understanding Conflict And War: Vol. 1: The Dynamic Psychological Field." [Internet, WWW]. *Available:* Available in .PDF format; ADDRESS: http://www.hawaii.edu/powerkills/DPF.CHAP2.HTM [Accessed: 26 November 2003].

Sarkis, Hashim. "Introduction." In Hashim Sarkis (ed.). 2002. *Le Corbusier Venice Hospital.* Prestel USA. pp. 12-17.

Sassen, Saskia. 2001. *The Global City: New York, London, Tokyo*. Princeton and Oxford: Princeton University Press.

Wall, Alex. "Programming the Urban Surface." In James Corner (ed.). 1999. *Recovering Landscape: Essays in Contemporary Landscape Architecture.* New York: Harper and Brothers Publishers. pp. 233-249.