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**MUTUAL INFLUENCE BETWEEN THE
UNITED STATES OF AMERICA AND
EUROPE IN THE FIELD OF MODERN
HOUSING**

THESIS

Submitted in partial fulfillment of the requirements
for the degree of Master of Architecture II in the
Graduate School of Syracuse University
May 1990
by
Erhard Schütz

Approved WERNER SELIGMANN

Date AUGUST 1992

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ABSTRACT

This study represents a partial summary of the research I conducted since 1985, beginning with a Fulbright Scholarship originally intended to investigate the American "roots" of modern housing and the work of architects of lesser prominence than the acknowledged "masters" such as Ferdinand Kramer, who had been a housing specialist of the "New Frankfurt" and who later came to the United States as a refugee. In the course of gathering material and discussing the findings, the field of investigation has widened, now addressing the development of modern housing in Europe, particularly in Germany, and in the United States of America as a result of mutual influence and exchange of knowledge.

This study will demonstrate that in contrast to the common notion of an autonomous invention the development of modern architecture after WWI took place as a synthesizing process involving experiences and principles already known in Europe and abroad prior to the war.

The study offers the thesis that the modern movement, and modern housing in particular, as it took shape in Europe, owes greatly to achievements made previously in America in areas such as scientific management, standardization, building types, construction methods, mechanical equipment, building materials, and finally the promotion of an objective or "matter-of-fact" attitude governing most aspects of life.

Evidence supporting this notion is gathered through the study of contemporary German architectural magazines that have been available to me while staying in the United States. The principle source for this research has been the Deutsche Bauzeitung (DBZ), which contains a large number of articles reporting from the United

States about a variety of aspects related to the reform of traditional architecture. Since 1925 the magazine published articles concerning American urban design, and "*Amerikanische Wohnsitten*" (the American way of living) which anticipated many of the technological, methodological, and aesthetical innovations now considered typical for modern housing. The articles used in this survey are included in this documentation as an appendix.

The second part of the study focuses on the effect of the European experiment / precedent for the development of public housing in the United States after the depression till the onset of WWII. The phenomenon of modern housing is thereby perceived as a cross-cultural endeavor characterized by a process of observation, abstraction , and an exchange of knowledge, policies, and ideals.

This part of the study was based on the study of literature and subsequent field trips for on - site investigations and photographic documentation of selected communities. Due to restraints of funds and opportunities, however, this part remains incomplete.

Among the architectural magazines published in the United States between WWI and WWII only few have been dedicated to the cause of modern architecture. A systematic representation of mass-housing as a comprehensive task, either public or cooperative, including neighboring disciplines can be found in Architectural Record, which provides most of the articles used as a source in this survey.

INTRODUCTION

The perception of modern architecture as a foreign phenomenon in America is largely due to the propagandistic effect of events like the exhibition "The International Style" at the Museum Of Modern Art in New York in 1931 (1) and, in part, due to publications like Catherine Bauer's Modern Housing, 1934. The publicity caused by the arrival of architects and planners fleeing Germany, Walter Gropius, Marcel Breuer, Erich Mendelsohn, and Mies van der Rohe among them, reinforced the initial notion and added a "Teutonic" element overshadowing at that time the contributions of Frank Lloyd Wright, Raymond Hood, Howe, and the foreign born American architects like Richard Neutra and William Lescaze.

It was not until 1934 that the public was made aware of the link between the aesthetics of European modernism and images familiar to the American observer. Using a photography of an Indian pueblo in Taos, New Mexico, taken by Albert Frey, the Swiss historian and critic Siegfried Giedion suggested the linkage:

"These buildings for dwelling purposes exhibit an unusually well balanced harmony of living requirements, structural methods and formal expression. There are no parts that exist for purely sentimental or decorative purposes. At the same time essential needs are expressed with a refined knowledge of appearance. Such architecture is at once timeless and modern."

In the same context Giedion refers to the vernacular California bungalow and the house for Mary Banning, Los Angeles, from 1911 designed by Irving Gill as convincing examples for a cubistic architecture in harmony with planning requirements for the assemblage of individual volumes and the structural process: "In certain

contemporary American architecture we discover forms that are strikingly similar to the Indian pueblos of New Mexico. With a natural architecture the form is a consequence of planning requirements and structural methods. In the three cases illustrated there is a grouping of rooms for dwelling purposes. Since a cube represents the most compact and practical shape for a room, we can expect the economical grouping of such rooms to result in rectangular composition". (2)

Although Giedion avoids an explicit verbal reference to the similarity between those images and European modern aesthetics, the use of the term "cube" and "rectangular composition" together with an image of a building Giedion identifies as a design by Marcel Breuer in Wiesbaden (*Haus Harnischmacher*) in the preceding article makes the polemical intentions of the author clear. The content of Giedion's remarks concerning the relation between cubistic imagery and economic assemblage is furthermore strikingly similar to a description of the "*Typenhaus*" that Walter Gropius and Fred Forbat designed in 1922. In the same issue Giedion suggests in an article entitled "What Should Be Done To Improve Architectural Education" to appoint practicing architects of stature as teachers. It sounds prophetic in retrospect: "Appointment of architects of outstanding experience and technical ability as professors of the important schools of architecture. For example, would not an experienced educator and creative head such as Walter Gropius be very helpful for the reorganization of the architectural schools of America?" (3)

If taken together, the sequence of articles represents a well planned attempt to convince the American reader of the existence of common principles by means of visual association. By relating both areas of investigation, modern housing in Europe and in the United States, this

study ultimately offers the thesis, that in contrast to the perception of "modern architecture" as a phenomenon alien to the American culture, it is American in character by nature of its genealogy

Notes:

- (1) Hitchcock, p.VII;
- (2) Architectural Record, vol. 75, no 5, May 1934, pp. 376-377;
- (3) *ibid.*, p.374:

Literature:

Hitchcock, H.-R., The International Style or Architecture since 1922, New York 1932

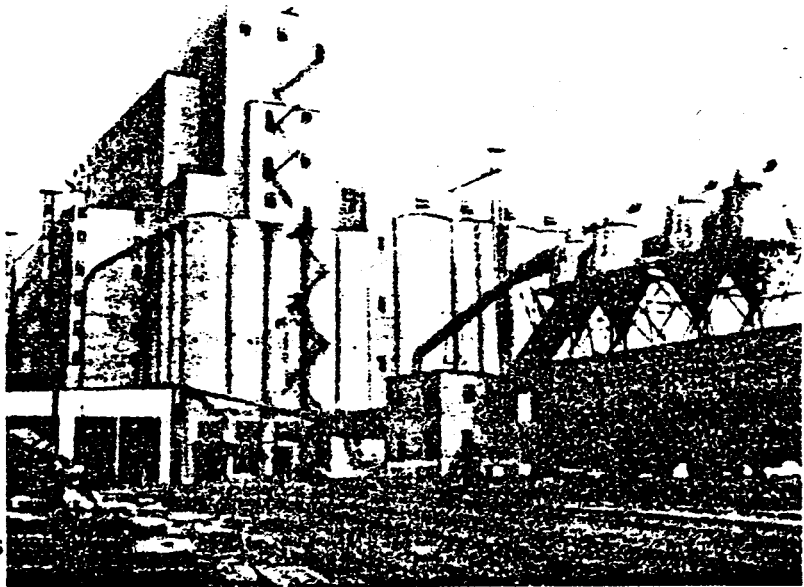


fig. 1
Grain Silo, United States: from
Mendelsohn, Bilderbuch eines
Architekten

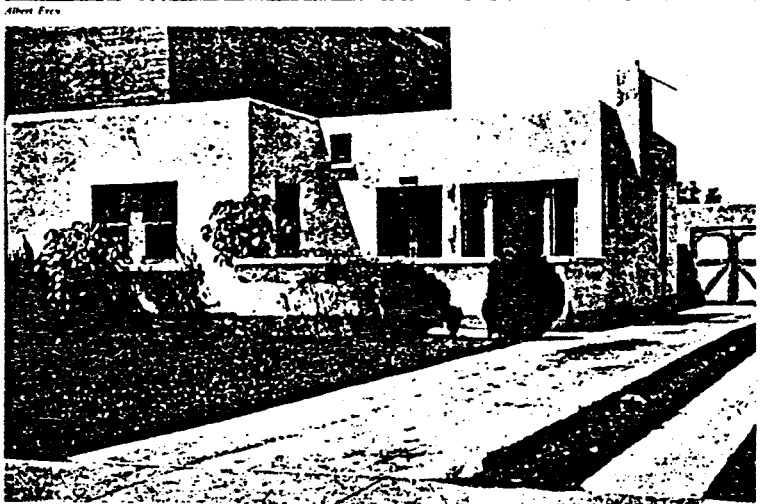


fig. 1
Pueblo, Taos: photo Albert Frey
fig. 2
Suburban Bungalow, Los Angeles:
photo S. Giedion
fig. 3
Mary Banning House 1911, Irving
Gill: photo S. Giedion

I. THE "NEUE SACHLICHKEIT" IN GERMANY UNDER THE INFLUENCE OF THE IDEALISTIC PERCEPTION OF AMERICA

At the turn of the 18th century a most important phase in the development of the modern culture in Europe took place. The phenomena were expressed clearest in France even before the revolution :

the economy was based on mass-production by specially skilled workers in manufacturing plants;

the legal system promised equal rights;

the cultural expression was dominated by a revival of Hellenistic ideals;

the architecture extended the historic precedent into a visionary proposal of a scientifically and rationally

organized universe as exemplified by Ledoux'

design for the salt factory at Arc-et-Senans in the

vicinity of Besançon. It received the principal lay-out not from considerations of military defense and symbolic placement expressing a hierarchical order

of society, but from rather logical demands of

supervision and visual control of the production

process. It is in this spirit that architects attempted to

address the question of housing for the poor as a mandate for their involvement. Ledoux's symbolic

illustration of the poor residing under the tree is

certainly not a solution but clearly a recognition of a new theme in architecture to come. In an analogy to

the method of natural science that searched for the

ultimate, simple truth to explain complex

phenomena, the social reformers and philosophers

like Rousseau searched for the archetypical of

social relationships among the simple cultures of a

natural society. (1) The Indian "noble savage",

slightly tuned up and translocated in the industrial society, served as the model for the common man,

the subject of modernity. Not surprisingly, the role

model was found in the American mass society. Among several recorders was the architect Adolf Loos who's important pronouncements of simplicity and abandonment of applied ornament received their inspirations from his impressions of North America during his stay.

Charles Fourier's proposal for the co-operative palace *Phalanstere* for 2000 people including facilities for recreation, education and production was never built, but it served as the prototyp for a variety of social -utopian experiments. The *Familistere* in Guise built by the industrialist Charles Godin most closely achieves the ideal expressed by Fourier.

In Germany the innovative thoughts associated with the social and political changes in France were welcomed by the intellectual elite, among them Johann Wolfgang von Goethe.(2) As Napoleon's empire expanded, however, the initial enthusiasm vanished and was replaced by resistance and subsequently by the fight for national independence and unity. "The Befreiungskriege", wars of liberation, resulted in an idealistic cultural climate characterized by a longing, romantic spirituality in search for the national identity and liberty as expressed by the paintings of Caspar David Friedrich. The decades following the defeat of Napoleon's armies have been dominated by the conflict between the positivistic character of modern economy and sciences, and a reactionary political system establishing itself in the political vacuum. Hegel formulated a universal philosophical concept that postulated underlying common rules and laws for the economical and political development, thus providing the foundations for a positivistic theory of society replacing myth with a new objectivity. Within the cultural world it was architecture that was able to relate the search for clarity, the facts and the attitude to the romantic spirit. In German architecture, this dualism can be observed as a

prominent example in the work of Karl Friedrich Schinkel. His design is characterized by reducing ornament to achieve purity as required by Gilly and the French visionary architects Boullée and Ledoux.

Schinkel achieves an almost cubistic formal language in the design for a pavilion in Charlottenburg. He furthermore developed a new typology of commercial and public buildings. For example his design for a department store becomes the prototype for generations to come and the museum erected in Berlin translates the desire to open the institution for the public into a significant architectural concept. On the other hand, architects like Schinkel did not hesitate to propose neo-gothic buildings for the sake of imagery if commissioned by their royal sponsors. The time had not arrived yet for an architectural and stylistic expression of a new society departing radically from the historic precedents as the primary source for its identity. The search for rationality and simplicity, however, is an always present issue in the 19th century. With the collapse of the empire after WWI came the release of a new, modern spirit that had already existed but been suppressed.

The mental condition for the search for rationality and simplicity is the asceticism as later expressed in the work of Paul Valéry: "*Un homme qui renonce au monde se met dans la condition de le comprendre*" (3)

To renounce as a prerequisite for the understanding of the individual's position in relation to society and culture became an ideal. The renouncement is the underlying thematic principle of a novel Goethe worked on for almost his entire life as a poet. In *Wilhelm Meister's Wanderjahre* Goethe offers a resume of his life-long struggle for an improved, idealistic society. In a sequence of interrelated stories he develops the ideal principles of education, the arts, architecture, political and economic system all based on the renouncement of

personal benefit and the dedication of the individual towards the public well-being. (4)

In the ideal society described by Goethe the education system is supposed to train a specialist in every discipline according to the needs of the society. Architecture and town planning are executed according to rational principles, the political system is based on the recognition of the equality of individuals, the economy satisfies the needs of the citizens through the application of science and rationality. Thus, Goethe

recommended the emigration to America to realize the utopia he develops as the setting for his novel.

By locating the story in America, Goethe was responding to travel reports of visitors to North America like Prince Bernhard, the son of the Duke of Sachsen-Weimar. As a minister and close advisor to the duke, Goethe was more than familiar with these travels that brought the prince to the region around Albany, New York, the Erie Canal, and the communities of the Rappists and those founded by Robert Owens, whose ideas Goethe had studied in connection with Fellenberger's reform school at Hofweyl.

The positive reception of the reports from America - only the treatment of Negroes and Indians provoked dismay- contributed to the the perception of America as the predetermined setting for the pursuit of an ideal way of life impossible to achieve in an Europe burdened by conventions and suppression.

Notes:

(1) Rowe, C. and Koetter, A., p.15;

(2) Leppmann, p.34;

(3) Henkel, p.X;

(4) *ibid.*, pp. 62-75

Literature:

- Goethe, J.W.v., Wilhelm Meister's Wanderjahre oder Die Entsagung , 1 edit, Bonn 1821
Henkel, A., Entsagung
- Ledoux, C. N., Architecture. Edition Ramee, Paris
1874;
- Leppmann, W., German Image of Goethe, Oxford
1961;
- Rowe, Colin and Koetter, Alfred, Collage City

PLATE III

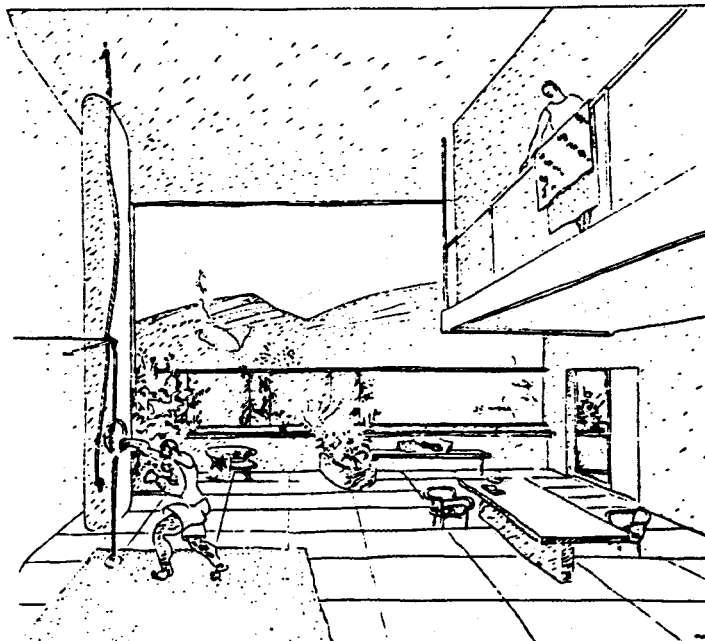


fig. 1
L' Abre du Pauvre: from Ledoux,
C.N., Architecture, 1874
fig. 2
The Natural Man: from F. O. Darley,
Scenes from indian Life, 1844
fig. 3
The Natural Man: from Le
Corbusier, Oeuvre Complete,
1910-1929

PLATE IV

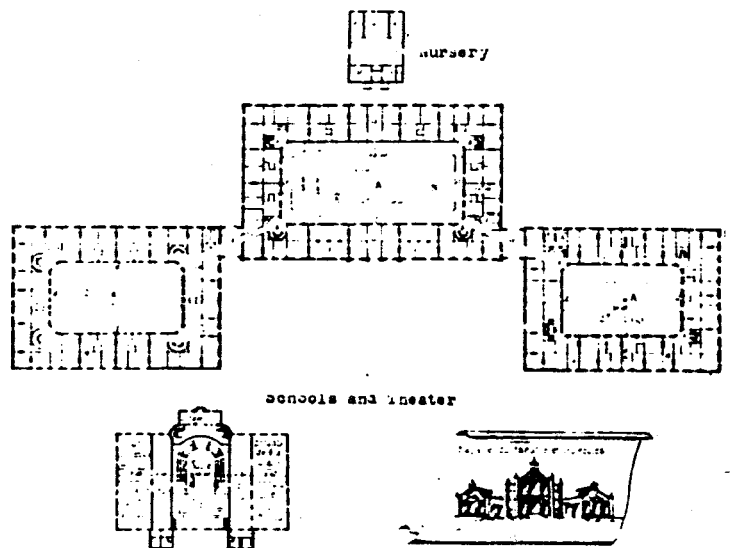
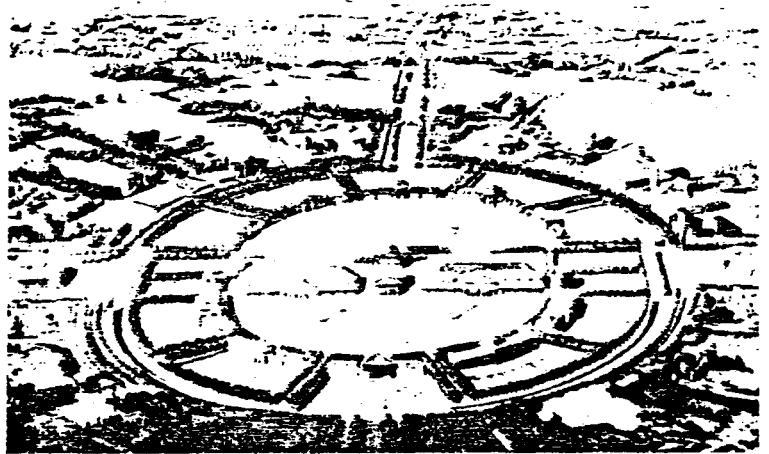


fig. 1
Arc et Senans: from Ledoux, C.N.,
Architecture, 1874
fig. 2
Familistere, Charles Godin: from
Bauer, Modern Housing
fig. 3
Phalanstere, Charles Fourier: from
Bauer, Modern Housing



II. REFERENCE TO AMERICA IN EARLY MODERN ARCHITECTURE

The implementation of modern principles has been the subject of discussions in avant-garde institutions like the *Werkbund* since its formation in 1907 and artistic circles like the group around Bruno Taut. (1) Here the underlying search for an improved architecture relating to the objective needs of contemporary society inherent in many of the reform movements of the 19th century (2) found a new forum for the articulation and dissemination of a program or manifesto. The principles of that new architecture, largely derived from the field of engineering and advanced building construction, have already been demanded by Wiss in 1872:

"Architecture will have to develop the building's beauty in a constructivist way from the shape of the functionally determined plan. Simple, pleasing relationships and lines...will be of more help than unrelated ornament glued onto plain walls. Such constructivist building art will find its own aesthetic laws even for small dwellings once the interior design is no longer subject to the academic caprice of architects" (translation by R. Tolzmann) (3)

In search for the aesthetic concept described by Wiss, many contemporary architects regarded the American "Neo-Romanesque" architecture as an example with merits (4)

The major break-through to manifest an aesthetic concept totally independent from stylistic architectonic precedents is Tony Garnier's *Cite Industrielle* of 1904.

Walter Gropius' publication of images of industrial architecture from the United States in the *Jahrbuch des Deutschen Werkbundes* links the images designed by Garnier to precedents in America. It is probably the first of a series of explicit homages of American examples of architecture by Gropius, Le

Corbusier in Esprit Nouveau (1920, 1921) and Vers Une Architecture (1924), Erich Mendelsohn in Amerika, Europa, Russland (1929) and Bruno Taut in Die Neue Baukunst in Europa and Amerika (1929).

Today it is astonishing to observe the "silo-mania" of the first two decades of the 20th century not only for the similarity of the images chosen and the identical propagandistic style and intention employed by its authors. (5)

The need for the reconstruction after WWI made the previously discussed principles of a progressive architecture mandatory without restrictions in style and form. The newly established political order allowed the implementation in a widely centralized state initially without interference of a conservative superstructure.

In Berlin, the architectural curricula of the building academies moved from preoccupation with "monumental art, historicism and ornament" towards "practical and objective questions in buildings".

That meant introducing the student to "standardization", development of types, "the Gilbreth method" and Taylor's scientific management." (6)

This example not only supports the notion of the existence of a larger number of progressive institutions developing modern curricula responding to the challenges of the society as expressed by Ludwig Hilbersheimer, when he describes the Bauhaus as part of a movement, (7) but also provides evidence of a direct reference to American principles of management, also identified as "Fordism", introduced to architectural education.

With the official recognition of those principles which also spread under the label "Americanism", (8) the way had been paved for the practical application in a wide range of state and community controlled areas including the solutions to the housing question.

Notes:

- (1) Whyte provides a well illustrated presentation in English;
- (2) For a comprehensive report on pre-war housing reform in Germany see Bullock and Read;
- (3) Wiss, Eduard, as quoted in Tolzmann, p.143;
- (4) Tolzmann, p.153;
- (5) Breuer, pp. 197-207
- (6) Kersten, G., *Zur Neuordnung des Unterrichts an unseren Bauschulen*, DBZ, LIV, 1920, p.42 as quoted in Tolzmann, p.25;
- (7) Hilbersheimer, p.137;
- (8) Tolzmann, p.4;

Literature:

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- Bullock, Nicholas and Read, J., *The Movement For Housing Reform in Germany and France 1840-1914*, Cambridge 1985
- Hilbersheimer, Ludwig, *Contemporary Architecture*, Chicago 1963;
- Tolzmann, Rainer Hanns, *Objective Architecture: American Influences in the Development of Modern German Architecture*, Ann Arbor 1975;
- Whyte, I. B., *The Crystal Chain Letters: Architectural Fantasy By Bruno Taut And His Circle*, Cambridge 1985

PLATE V

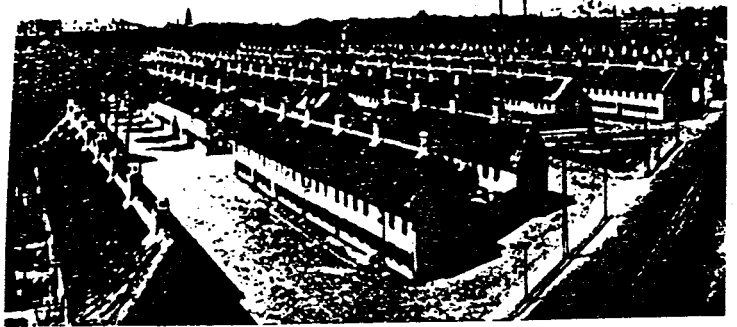


fig. 1
Copenhagen housing Scheme
1630
fig. 2
Fuggerei Augsburg 1519
fig. 3
Luebeck Gangviertel
fig. 4
Hellerau 1912, Heinrich Tessenow
fig. 5
Falkenberg 1914, Bruno Taut

III. APPLICATION OF AMERICAN PRINCIPLES AND IDEAS IN GERMAN ARCHITECTURE

A major contributor to the discussion about type and standardization in industry and the crafts has been

Bruno Taut.(1) His research and observations demonstrate his familiarity with the most innovative approach towards construction. Explicit reference is found in his publication of 1929.

The elements of the so-called "Americanism" (e.g. simultaneity, rationalization, mass-production, efficiency) appeared somewhat sporadically in post-war Germany as tools for the task of reconstruction during shortages of skilled labor and financial resources. This phase, however, contributed largely to simplicity and rational design, and initiated positivistically oriented research organizations.(2)

The "*Reichsforschungsgesellschaft fuer Wirtschaftlichkeit im Bau- und Wohnungswesen*" was designated as the coordinating institution to establish standards for an economical use of resources and means of production. Its effectiveness as a clearinghouse for modern principles in architecture and planning is illustrated by the rapid application of principles developed by its prime contributors. Walter Gropius' design for the community in Dessau-Toerten which followed the lay-out of crane tracks used for the assemblage of wall and floor components fabricated in a field factory on the site can serve as an example for the effect of the way of production on the overall urban design. (3)

Otto Haesler's housing projects in Kassel and Celle also allow the process of assembly to determine the urban design, as do the communities of the later years in Frankfurt. Despite the occasional use of a different material, steel frame instead of concrete panels, all the projects mentioned above followed

the example of housing projects in the United States, however, superseding the precedents in scale. Among the earliest of those examples of standardized unit construction are a series of group houses built by Grosvenor Atterbury in New Jersey and Long Island beginning in 1907. (4)

The first projects executed in Germany are published as early as 1926 by A. Lion, Berlin, and, similar to their predecessor in the United States, feature a rather conventional appearance with pitched roofs. (5)

The author, however, stresses the effect of the building method on the aesthetics : "Naturally, every unnecessary...ornamentation, which the modern style rejects, is absent thereby recognizing that here, too, the pure utilitarian results in beauty" (translation by E.S.). In anticipation of future developments in Germany the author mentions that flat roofed buildings erected in the Netherlands using the same methods seem to be more suitable and also allow for one additional level thereby improving the economic feasibility. (6)

The use of cranes to assemble residential units contributed significantly to the increasingly rigid urban lay-out of communities like Rothenberg in Kassel and Georgsgarten in Celle by Otto Haesler, Westhausen and Goldstein in Frankfurt by Ernst May and associated architects as illustrated in the diagrams published in Das Neue Frankfurt.

The relation between the means and ways of building production in Frankfurt and those practiced in the United States is explicitly mentioned by Dr.

Walter Schuermeyer in an article Die neue Wohnung und ihr Innenausbau (The New Dwelling and its Equipment and Appliances) published in 1927. Schuermeyer discusses a new process of prefabrication developed by the Phillip Holzmann Company utilizing the principle of American frame construction as used in steel high rise buildings.

The walls are used as cladding only. The units

consists of a single structural cell of about 80 qm (800 sft) which are subdivided by non-load-bearing partitions or closets.(7)

The new political system in Germany after WWI not only allowed an unprecedented freedom of artistic expression, but mandated the formulation and implementation of social programs to address the disastrous economic situation which could not be solved by the mechanisms of a free market.

The reconstruction necessitated simplicity of expression, a rational approach towards the needs and the application of advanced techniques and technologies. The new political situation characterized by the lack of a conservative superstructure allowed the systematic application of underlying principles of 19th century's progressive architecture and planning without restrictions of form and style.(8) The aesthetic concept creating the "face" of the new society is idealized as a function of a scientific process in opposition to academic or artistic concern.

As Wiss remarked: "Architecture will have to develop the building's beauty in a constructivist way from the shape of the functionally predetermined plan. Simple, pleasing relationships and lines...will be of more help than unrelated ornament glued onto plain walls. Such constructivist building art will find its own aesthetic laws even for small dwellings once the interior design is no longer subject to the academic caprice of architects"(translation by H.R.Tolzmann).(9)

The typology of the dwelling unit is the focus of an article in 1926 by Dr. Brandt, *Oberbaurat* in Hamburg, about "Amerikanische Wohnsitten" or American way of living. In this article the author points out the socio-economic situation, i.e. large groups of the American population are faced with high rents for their accommodations, which has led to the development of devices to minimize the size

of dwelling units and to rationalize daily life, forms of overall organization like the "family hotel" that differ drastically from traditional German housing. The use of closets for the storage of folding beds and clothing is of particular interest to Brandt. The author provides a detailed description of a space saving kitchen with built-in ironing boards, pull-out trays, storage cabinets with rounded corners to avoid the collection of dust, and a small range, sink and refrigerator made out of enameled metal. The wide spread use of electrical tools and appliances is also noted. The author is pessimistic about the prospect of using similar devices in Germany due to their cost.(10)

In a later article, however, published in 1927, Schuermeyer reports about the exhibition Die Neue Wohnung und ihr Innenausbau (see above) showing a wide range of features and their application in dwelling units that represent the state of the art of housing as described by Brandt without making any reference to American precedents.

According to Schuermeyer, those features represent the desire to enhance the economy and foster the reorganization of construction to comply with principles of technology and industrial production.(11)

Among the important developments for the housing program in Frankfurt was the *Frankfurter Kueche* (Frankfurt Kitchen), which became a prototype for European built-in kitchens. The lay-out followed very closely the description of American kitchens from 1926. The publications provided by the communal authorities made no secrecy of this relation and depicted examples from the United States. The domestic realm had been targeted for a concerted effort of designers and ergonomic engineers. The American efforts in this direction originated with Catherine Beecher's Publication The American Women's Home

and the subsequent development of "domestic engineering" as a discipline which until then had only been pursued in the United States.

It should not be surprising to see those features that - in the perception of the European avant-garde - made an American household appear rationally organized being used in the designs of the promoters of "Americanism" frequently.

The early residential designs of Walter Gropius and his collaborators after WWI prove to provide many examples of the applications of lessons learned from the study of American architecture. The source of inspiration for the Kallenbach residence in Berlin from 1922 in collaboration with Adolf Meyer may very well be linked to an American precedent, the "Rustic Mansion", Chatwold, Mount Desert, Maine as published in the Deutsche Bauzeitung in 1887.

Tolzmann, in Objective Architecture, used this example to demonstrate that subsequent designs like Tscharmann's "Rustic Villa" in Leipzig 1896 were influenced by America, and that contrary to Pevsner's opinion Muthesius' "Villa in Charlottenburg" from 1924 is not an example of the use of English but American precedent.(13) The significant oblique economy wing in either of those designs is containing kitchen, utility and service rooms. The origin of the project in Charlottenburg could be debated, since Muthesius designed the villa upon return from a trip to England, the project by Gropius and Meyer, however, does not only coincide with the lay-out of the first floor of the American precedent to a large degree, but is also anticipating Muthesius's design by two years.

The use of built-in closets is typical for the "*Typenhaeuser*" or dwelling types designed by Gropius starting with the community "Am Horn" in 1922. The units designed in 1925-8 for Dessau-Toerten feature sinks built into closets separating the bedrooms on the upper level with access from

either side. At Dammerstock, Gropius uses a variation of this theme by placing an additional sink in the hallway of the second floor in addition to the sink in the bathroom. In his own house and the "*Meisterhäuser*" in Dessau (1925-1926) and in the Villa Lewin (1927-1928) the use of built-in closets, some with double access from neighboring bedrooms is evident. The similarity to a description of American housing published in the *Deutsche Bauzeitung* in 1899 by Wolbrandt provides an argument for the adaptation of an American feature by Gropius. According to Tolzmann, "Wolbrandt also drew attention to the unconventional separation of space into two rooms through built-in closets accessible from both sides and furnished with a sink".(14)

The 1-bedroom apartments at Siemensstadt (1929-1930) provide another solution which is remarkable. The double-access bathroom can be reached from the vestibule for visitors as well as from the master bedroom via a walk-through closet. This solution in particular is of great similarity to American housing as we can observe even today. There are, however, no sources available that directly link this design to American precedents. It is possible that Gropius could have observed such or similar arrangements while traveling in America for several months in 1928, but such assumption remains purely speculative.

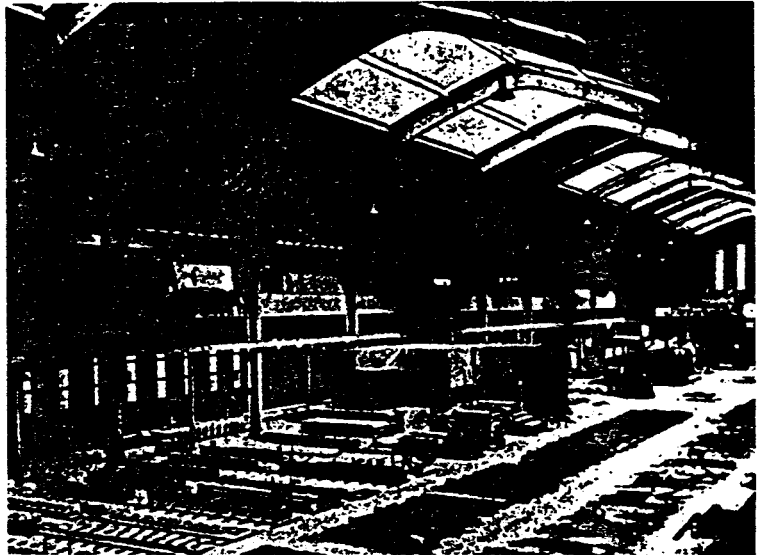
The preceding examples, however, demonstrate that "Americanism" as Tolzmann observes, "was no longer manifested in a particular style or stylistic feature, but in techniques and attitudes, products and appliances methodologically extended and applied by German designers".(15)

Notes:

- (1) Despite Tauts involvement in the expressionism some reference is made to American standardization and industrialization
- (2) Tolzmann, p.205;
- (3) Probst and Schaedlich, p.100;
- (4) Architectural Record, January 1934, p. 11 and Deutsche Bauzeitung, November 1925, p. 189;
- (5) Deutsche Bauzeitung, August 1926, pp. 112 ff;
- (6) *ibid.*, p 114;
- (7) Deutsche Bauzeitung, Juni 1927, pp. 395;
- (8) Tolzmann, p.13;
- (9) Wiss, p.39;
- (10) Deutsche Bauzeitung, Januar 1926, pp. 62-64;
- (11) Deutsche Bauzeitung, Juni 1927, p.396;
- (12) Probst und Schaedlich, pp. 175-177;
- (13) Tolzmann, p.267;
- (14) *ibid.*, p.166;
- (15) *ibid.*, P.7

Literature:

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- Neues Bauen. Neues gestalten: Das Neue Frankfurt. reprint Berlin 1984
- Probst, Helmut and Schaedlich, Christian, Walter Gropius: Der Architekt und Theoretiker, Berlin 1985
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1918 DEMONSTRATION GROUP 48
FOREST HILLS GARDENS, LONG ISLAND



Among the earliest examples of standardized unit construction are a series of group houses built by Grosvenor Atterbury in New Jersey and Long Island, beginning in 1907. Precast wall, floor and roof sections, composed of different materials, were assembled on the site. In this case concrete was used and the units were hoisted in place by means of a crane.

STANDARDIZED UNIT CONSTRUCTION
GROSVENOR ATTERBURY, ARCHITECT

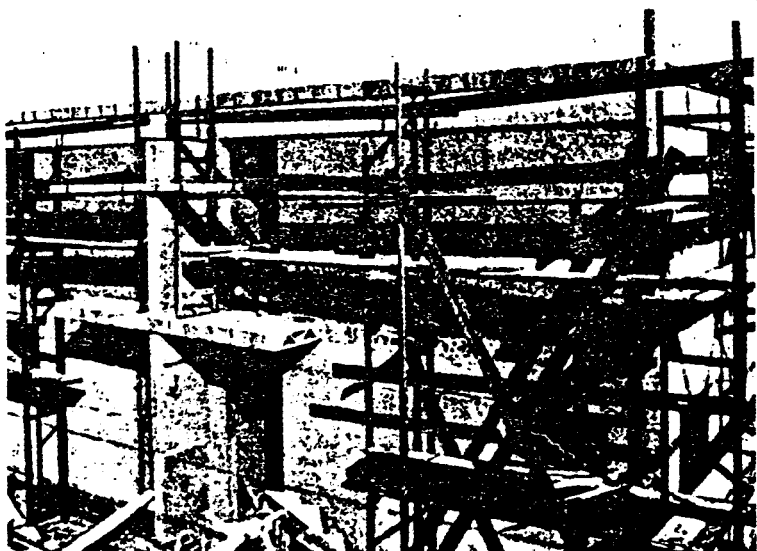


fig. 1 Factory
fig. 2 Construction Site, Frankfurt:
DNF 2/ 1926-27
fig. 3 Construction Site, Frankfurt:
DNF 2/1931
fig. 4 and 5 AR, January 1934

PLATE VII

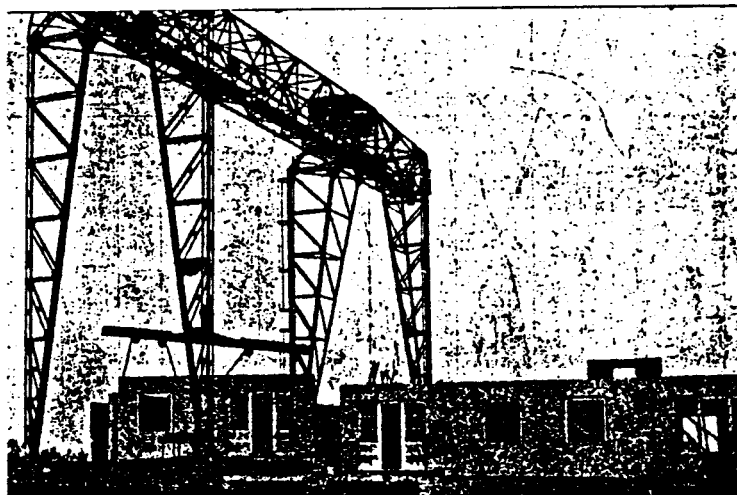
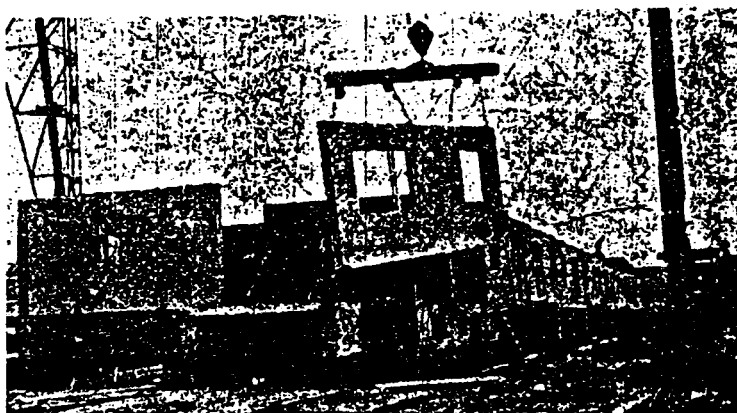
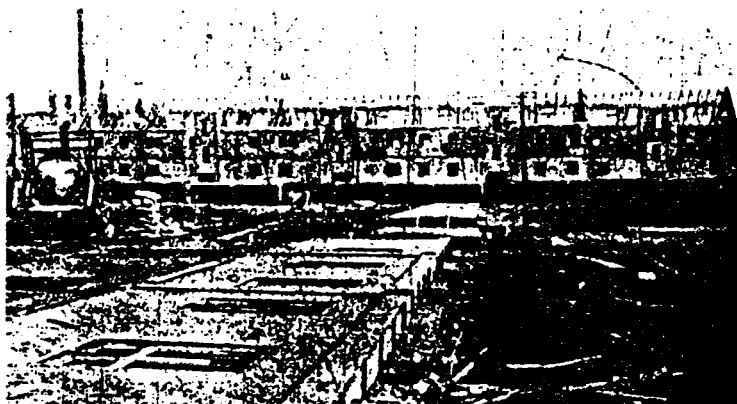


fig. 1-4 Construction Site Berlin,
DBZ August 1926

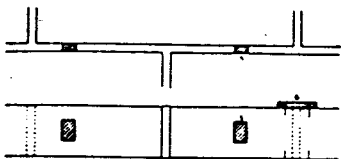
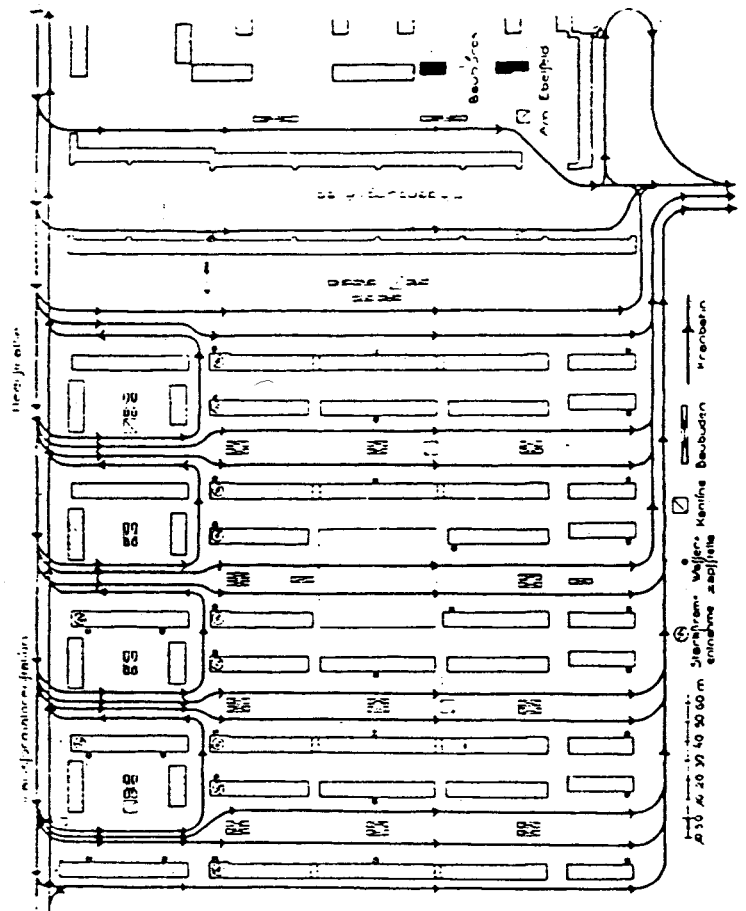


Bild 15: Herstellung der Lagerfugen. Eingelegte Betonklöbchen sichern gleichmäßige Fugenstärke und Stützungen

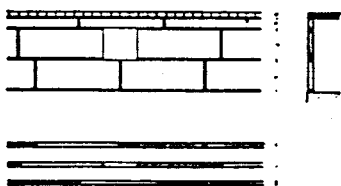


Bild 16: Schichtenaufbau der Gelföhe

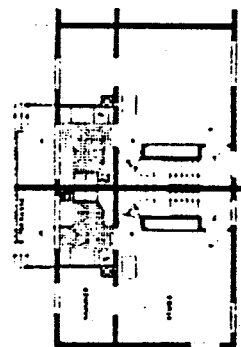
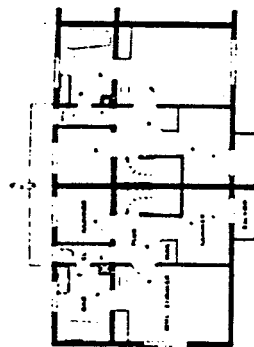


Bild 18: Grundrisse vom Plattentyp

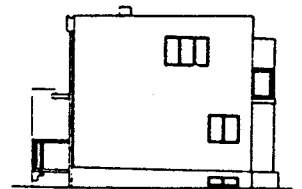
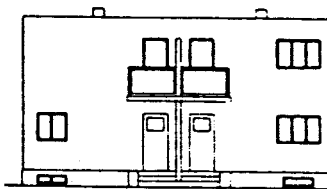


Bild 19: Vorderansicht

Bild 20: Seitenansicht

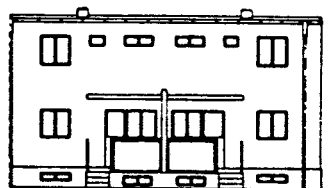


Bild 21: Vorderansicht

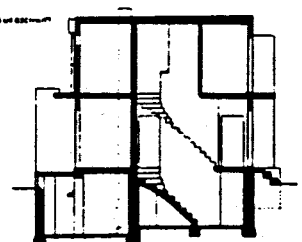


Bild 22: Schnitt

fig. 1 Lay-out of Crane Tracks
fig. 2-5 Construction drawings
"Platentyp", Frankfurt: DNF 2/1931

PLATE IX

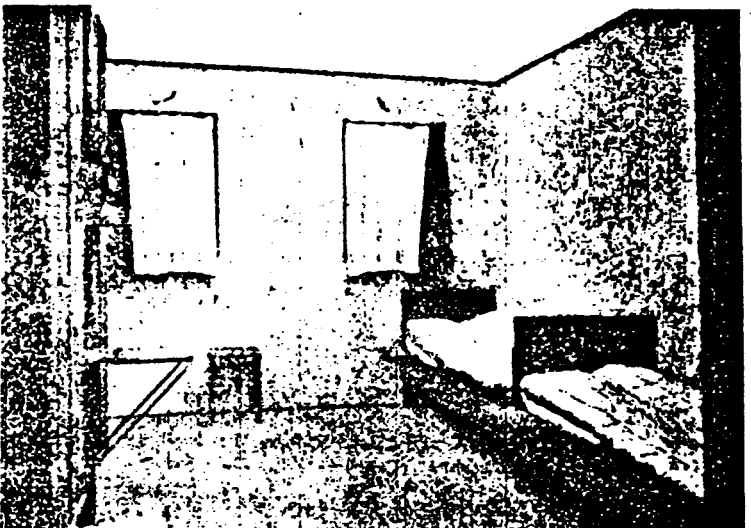
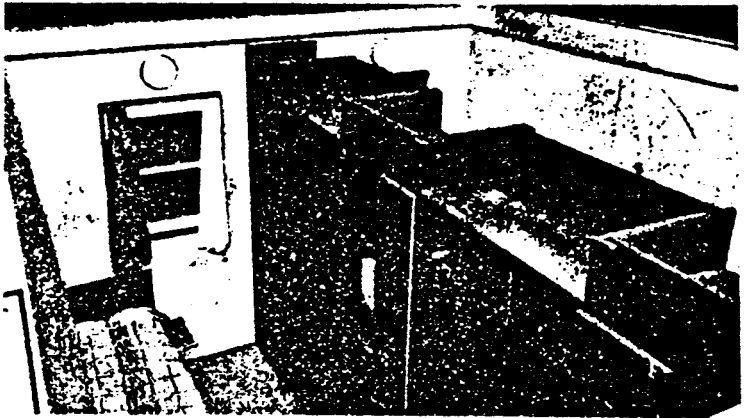
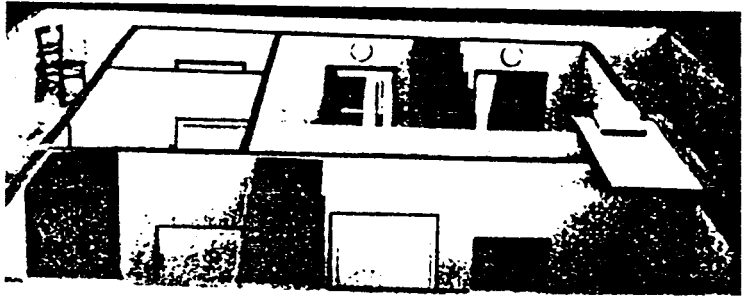
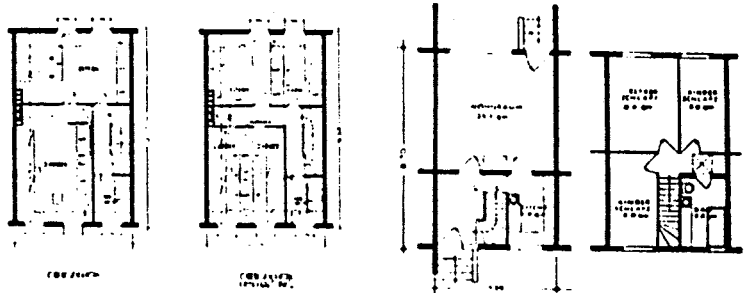


fig. 1 Plans, "Die Neue Wohnung"
Frankfurt 1926

fig. 2-4 Photographs of Model Unit

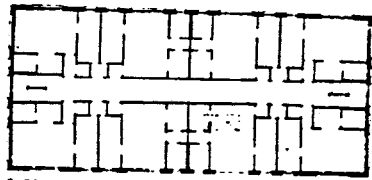


Abb. 1. Grundriß eines Familienhotels mit 8 Wohnungen. (rd. 1:400.)

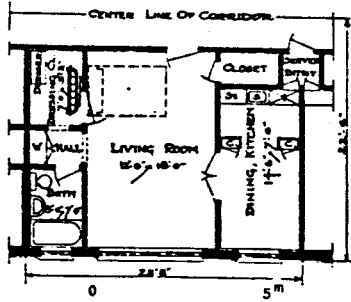


Abb. 2. Einzelwohnung aus dem Familienhotel Abb. 1.

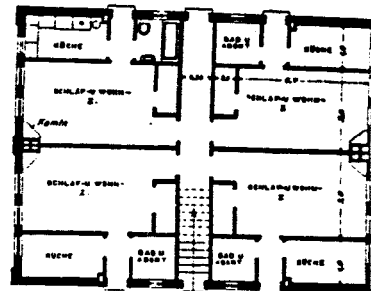


Abb. 3. Kleinhaus mit 4 Junggesellen-Wohnungen in jedem Geschos (1:200.)

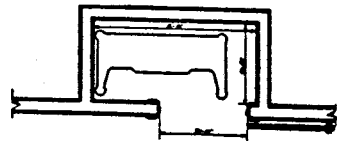


Abb. 4. Wandnische zur Aufnahme des hochgeklappten Bettes.

Abb. 5 (rechts). Wandnische zur Aufnahme des hochgeklappten Bettes

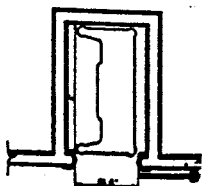


Abb. 6 (links). Hochgeklapptes Bett in Wandnische.

Abb. 7 u. 8 (unten) Aus einem Wandbrett herausklappbares Biegelbett.



fig. 1-8 "Amerikanische Wohnsitten", DBZ, January 1926



fig. 1-2 "The American Womens Home", C. Beecher 1869

PLATE XII

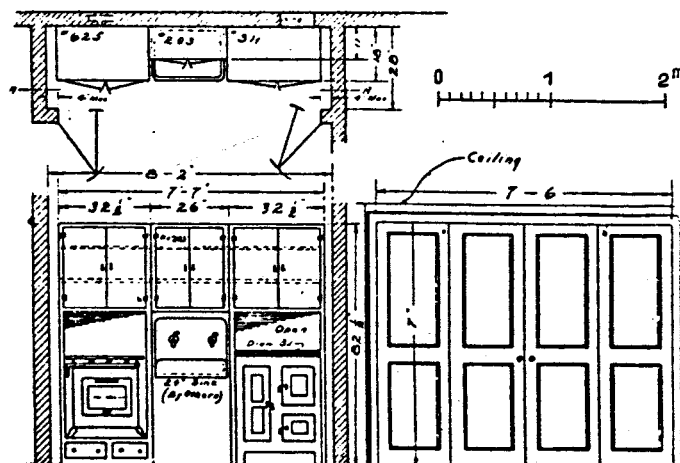
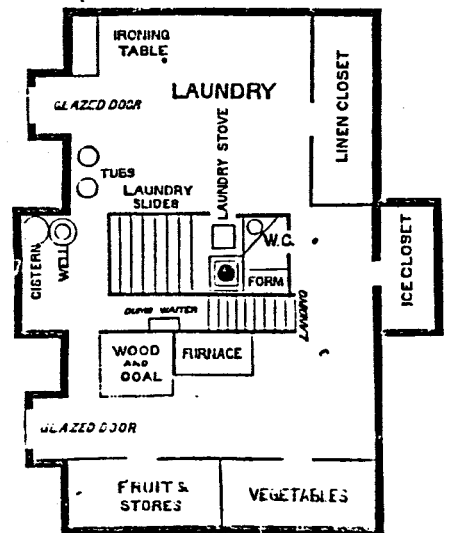
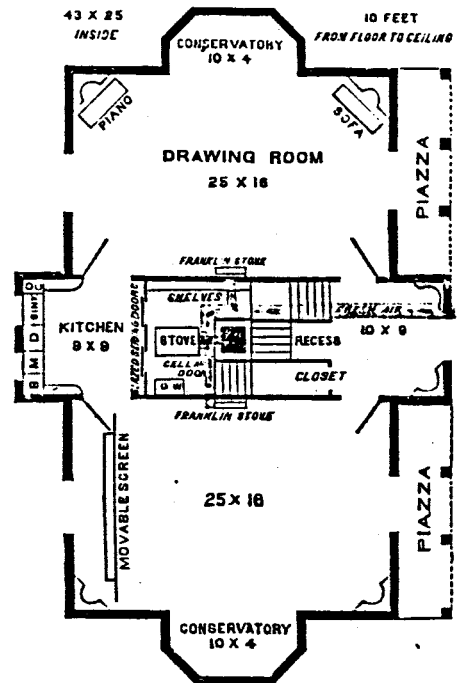


fig. 1-2 "The American Womens Home", C. Beecher 1869
 fig. 3 "Amerikanische Wohnsitten"

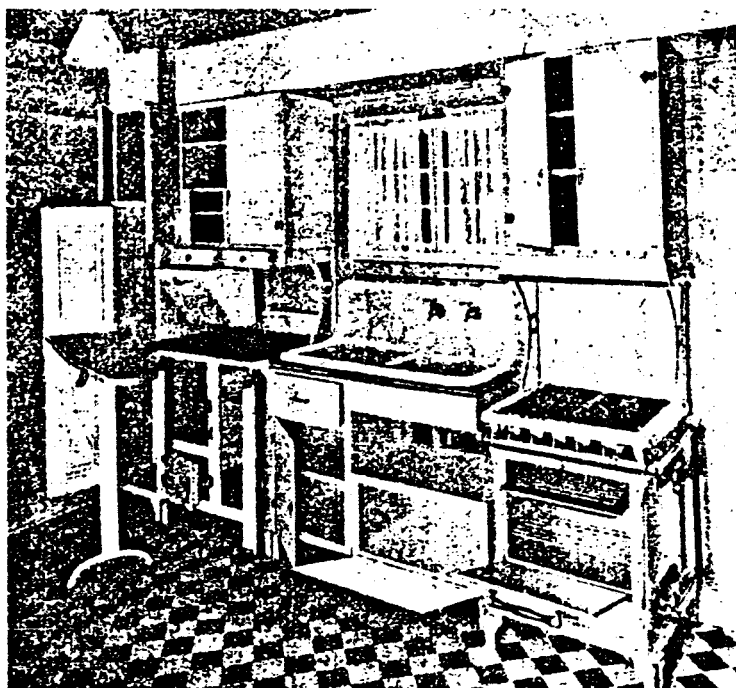


fig. 1 DNF 5/1926-27

fig. 2 "Amerikanische Wohnsitten"



13 Frankfurter
Küche: Innenan-
sicht. RA. 1926-27

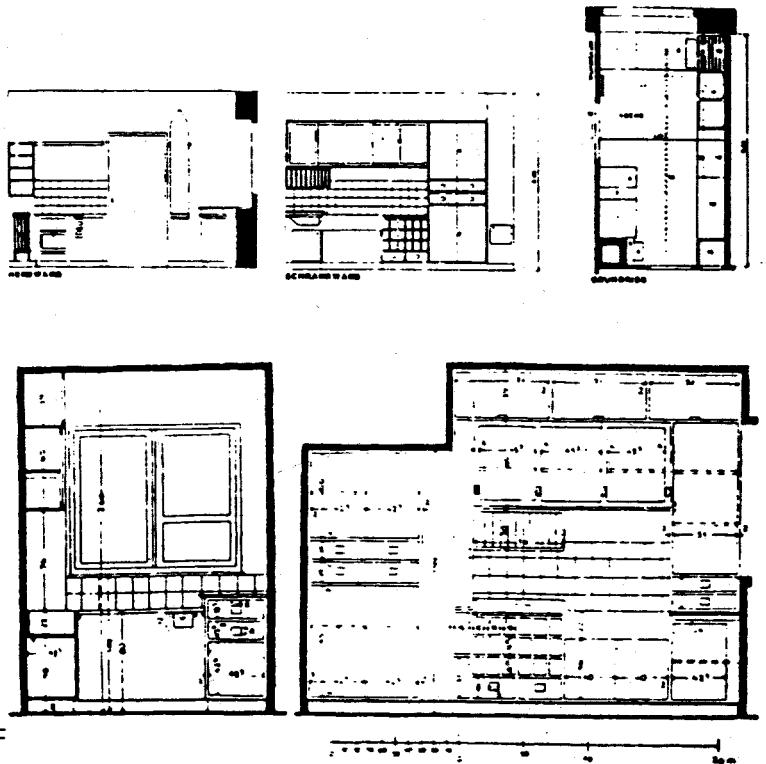


fig. 1-6 "Frankfurter Kueche", DNF
5/1926-27 and DNF 1/1929

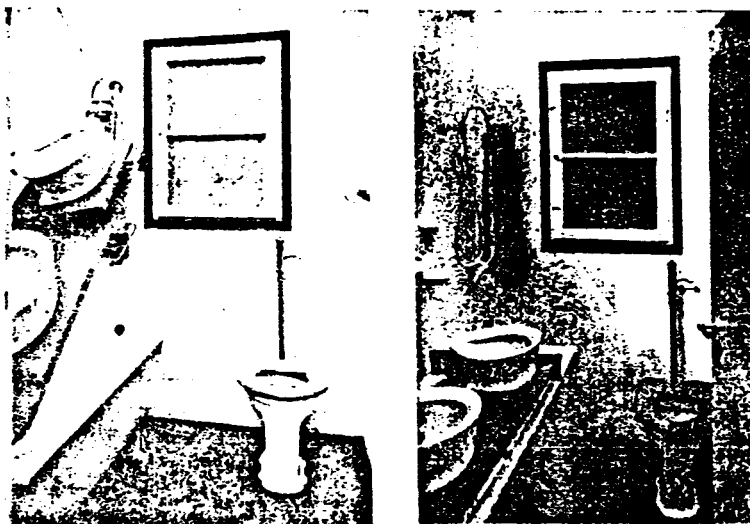


Abb. 1 u. 2. Waschraum, Bad u. Klosett im Kleinhaus des B. D. A. Architekten: (i. d. F. F. F. & B. B. B.)

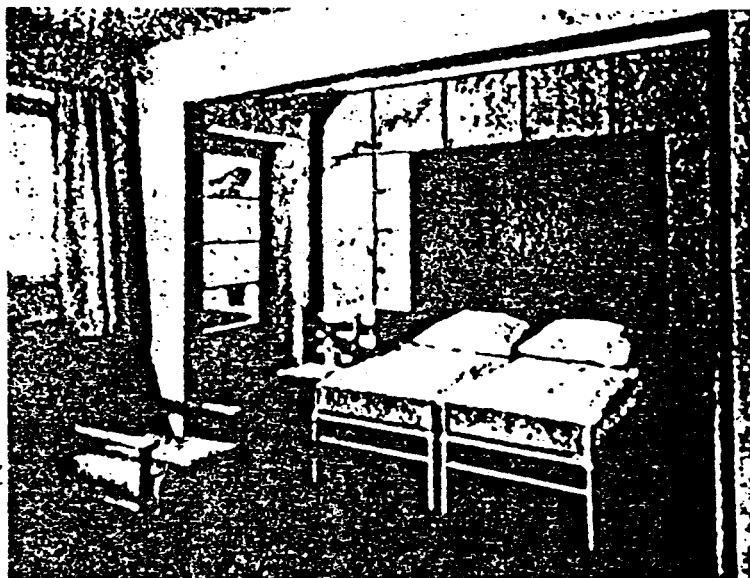


fig. 1, 2 "Die Neue Wohnung", DBZ
June 1927
fig. 3, 4 "Murphy Bed" in Frankfurt's
Public Housing, DNF 6/1929

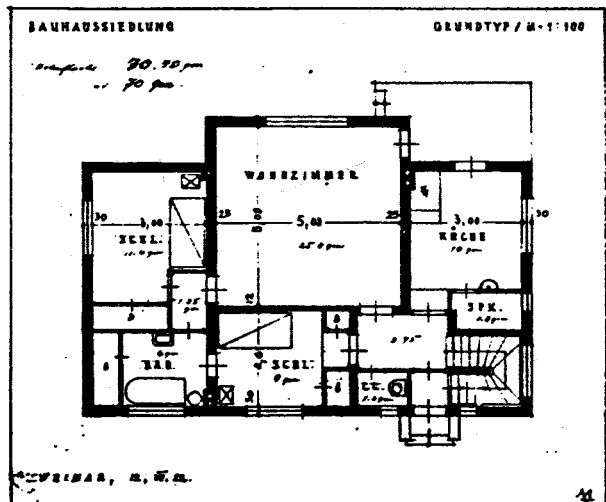


fig. 1,2 "Siedlung Am Horn" Site Plan and Typical Unit Plan

WERNER, H. H. S.

PLATE XVIII

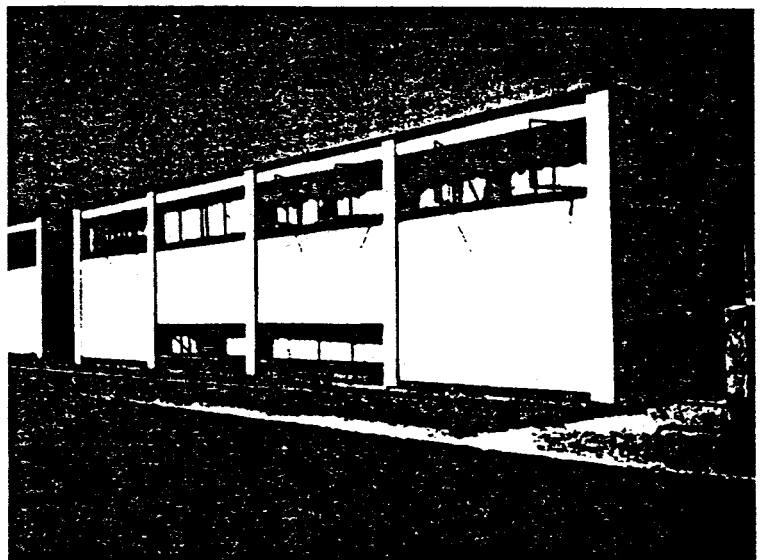
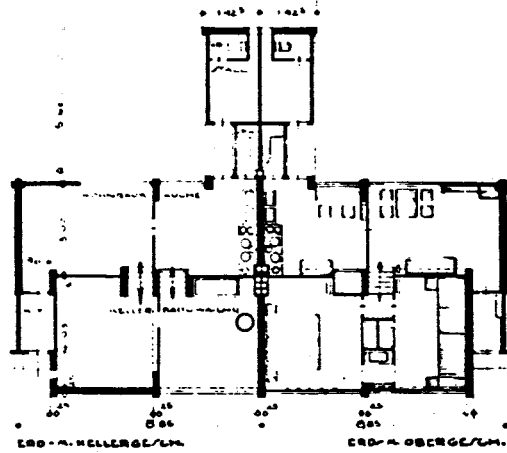
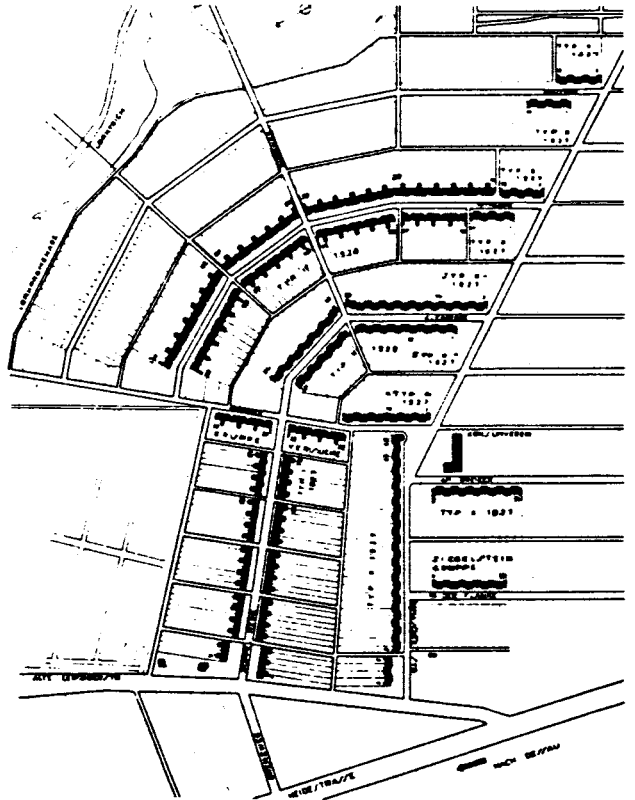


fig. 1 "Siedlung Dessau-Toertchen",
1925-28
fig. 2 Typical Floor Plan 1928
fig. 3 Fotografhy from Street

PLATE XIX

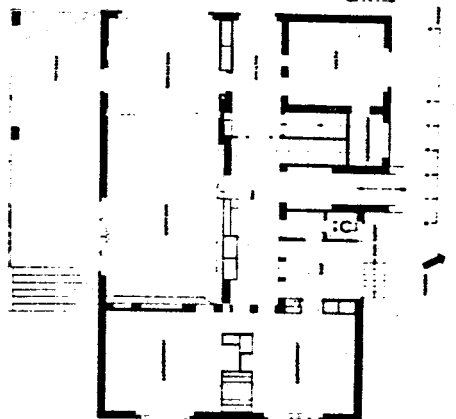
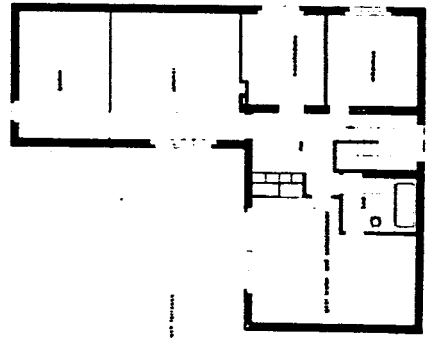
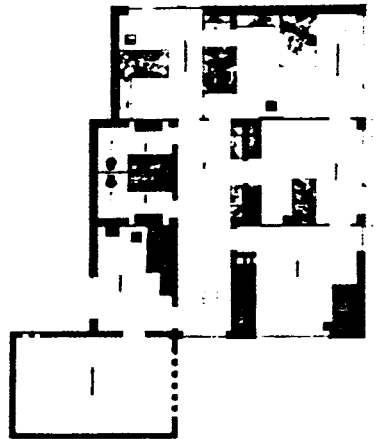


fig. 1,2 "Haus Gropius", Dessau
1925

fig. 3,4 "Haus Lewin", Berlin 1928

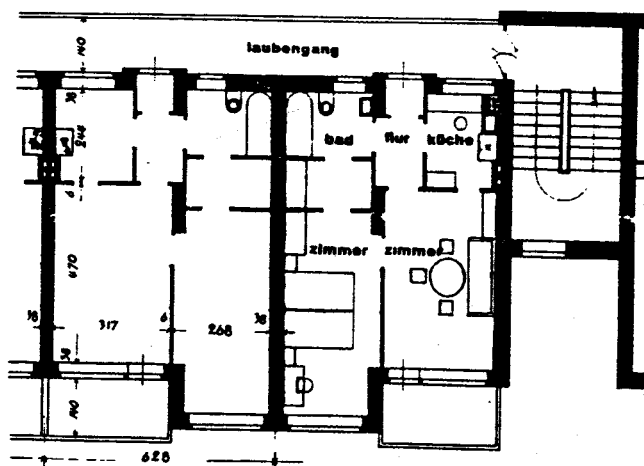
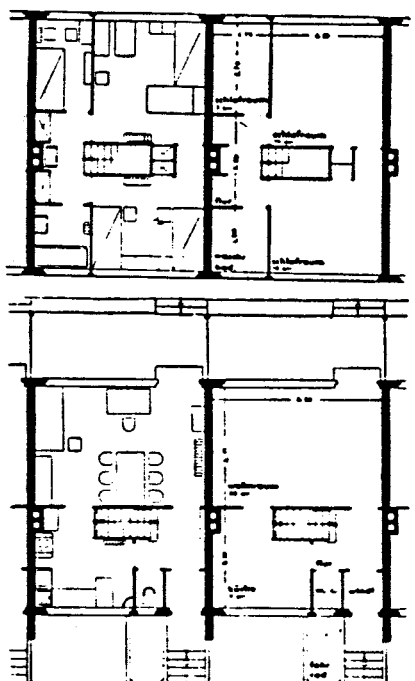


fig. 1,2 "Dammerstock",
 Karlsruhe 1929, Plan of Unit Group
 9
 fig. 3 Siemensstadt", Berlin 1930,
 Plan of "Laubenganghaus"

IV. ANGLO-AMERICAN REFORM MOVEMENTS IN URBAN DESIGN

In 1898 Ebenezer Howard published a book Tomorrow: A Peaceful Path to Real Reform which promoted an ideal community. It became the standard literature for urban designers outlining a scheme to limit suburban sprawl and unhealthy living conditions in the metropolitan agglomerations of the industrialized society. Howard's scheme proposed the foundation of new towns independent from the existing centers in all aspects but state government. The diagrams demonstrating the planning principles have not been intended to be regarded as blueprints for the lay-out of new towns, and carry the label "diagram only". No precise description of the physical characteristics has been provided by Howard, but a few years later a more detailed description was released by the Garden City and Town Planning Association in consultation with the author: "A Garden City is a town designed for healthy living and industry; of a size that makes possible a full measure of social life, but not larger: surrounded by a rural belt: the whole of the land being in public ownership or held in trust for the community."⁽¹⁾ The rural belt for agricultural production and natural landscape for recreation has since become a standard feature for the design of new settlements and furthermore given the name for the housing initiative of the Roosevelt administration in the United States.

Howard, not an architect or designer by education, is not the first to suggest a decentralized pattern of settlement limited in growth, but was its most successful advocate and propagandist. ⁽²⁾ It was not the intent of the author to promote a particular aesthetic concept, but to "demonstrate a better and more commonsense view of how towns should be

built" and "to lead the nation into a juster and better system of land tenure".(3)

The image of the English first Garden Cities is determined by a traditional appearance in typology and materials. Arranged in groups of neighborhoods they evoke the impression of hamlets or small villages.

The first community following Howard's principles was Ealing in 1901, followed by Letchworth, commonly considered the first complete Garden City, designed by Unwin and Parker in 1903. Howard took residence in Letchworth till he moved to Welwyn, the second Garden City. Howard's idea spread rapidly to continental Europe and to the United States. The *Deutsche Gartenstadtgesellschaft* was founded in 1902.

Though the principles Howard formulated have never been fully realized in Germany the influence of the Garden City, however, is significant in the development of garden suburbs and *Siedlungen* (neighborhoods), like Tessenows Hellerau and the "*Werkssiedlungen*" by the Krupp company. The link to the English concept as represented by the work of Parker and Unwin is indisputably established by the apprenticeship of Ernst May in that firm prior to his practice in Silesia and Frankfurt.

Despite the conventional or romantic appearance of the early Garden Cities, the overall planning concept was based on an innovative circulation system. Using inexpensive land the residential units were arranged around a common green park in the center. The motorized traffic was kept on the periphery serving the houses by cul-de-sacs, thereby increasing the safety and economic use of public utilities and facilities. This "super block" concept also provided the inspiration for designs by Clarence Stein and Henry Wright in the United States.

The housing situation in the United States was significantly different from Europe. After the government's war worker's housing program that produced an initial attempt to implement public standards in housing was abandoned, the betterment of the housing situation was left to paternal individuals or private organizations like the Regional Planning Association of America. Among its members were individuals whose contributions have shaped American housing: the critic Lewis Mumford; the architects and planners Henry Wright and Clarence Stein; the housing expert Catherine Bauer; the real estate entrepreneur and developer Alexander Bing; members of the Roosevelt administration who also served as consultants for the Greenbelt program like Frederick Ackerman and Tracy Augur.

The group first initiated a demonstration project in New York, "Sunnyside Gardes", a housing development considered as a trial run before addressing the "ultimate purpose of building an American Garden City".(4) A main objective of Sunnyside has been to provide access to adequate housing for families, typically excluded from ownership by high mortgages. As the building official from Dresden, Dr. Paul Wolf observed in 1928, the financial burden for the typical American Family has been higher than for their German counterpart. In his travel report the notion of the cooperative ownership and the existence of communal amenities at "Sunnyside" is worth description, however, the community is hardly considered innovative.(5) This judgement seems reasonable at that time but the author did certainly not consider the true merits that had been achieved in 1924, the date of the completion of the first segment of the community, at a time, when the city of Frankfurt just began to introduce the *Hauszinssteuer* (mortgage tax) to provide the funds for their future housing program. The existence of a

common park and recreation facilities, accessible from the individual gardens, the austere, but "objective" aesthetics and the efficient urban lay-out that anticipated most of the European counterparts is remarkable.

The attempt to build the first American Garden City at Radburn, New Jersey, 16 miles from New York City, resulted in an example of high standards of urban design. Without the restraints of a predetermined urban grid system encountered at Sunnyside, Stein and Wright adopted a superblock concept similar to Parker and Unwin's designs in England. The separation of traffic systems for cars and pedestrians was enhanced by underpasses connecting the system of paths in different neighborhoods without crossing streets for motorized traffic on the same level. This feature, derived from Olmstead's design for Central Park, reoccurs like other planning characteristics in the design for Greenbelt, Maryland of 1935. The "Radburn Idea" had five interrelated components: the superblock; specialized roads like peripheral arteries and cul-de-sacs; separation of pedestrian and automotive traffic; houses turned to front the park; a communal park as the backbone of the neighborhood. The orientation of the houses to the interior of the superblock, thereby assigning the duty of a service road to the cul-de-sacs, contributes to a certain ambiguity and lack of identity in the character of public space. However, the resulting specialized circulation system lead to Radburn's description as a "town for the motor age".(6) As a Garden City in the full sense Radburn was a failure, since most middle class residents commuted to New York City for work. Construction at Radburn came to a stop with the economic crisis in 1929.

Notes:

(1) Osborn, J. F., in: Howard, p.51;

(2) Christensen, p.32;

(3) Christensen, *ibid*, p.46;

(4) Stein, p.21;

(5) Wolf, P., *Staedtebauliche Reiseeindruecke in den Vereinigten Staaten von Amreika*, in: DBZ no 4, Dezember 1928, p 875;

also, Stuebben, Joseph, *Sonderberichte von der Internationalen Staedtebautagung April-Mai 1925*, in DBZ, Stadt und Siedlung, no 24, pp. 185 ff;

(6) Smith, G., in: Stein, p.44:

Literature:

Christensen, Carol A, *The American Garden City and The New Town Movement*, Ann Arbor 1978;

Howard, Ebenezer, *Tomorrow: A Peaceful Path To Real Reform*, London 1989

Stein, Clarence S., *Towards New Towns For America*, Cambridge 1966

SAN FELIPE COURTS

Literature:

Architectural Record, vol.91, no.4, April 1942,
p.47 ff; no. 5, May 1942, p. 52, 53.

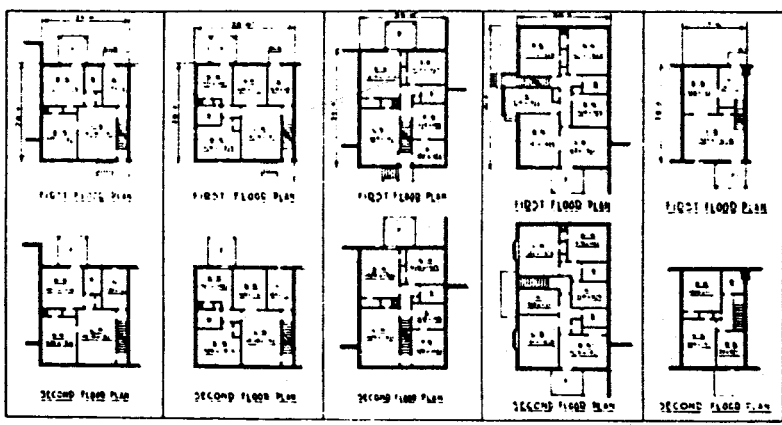
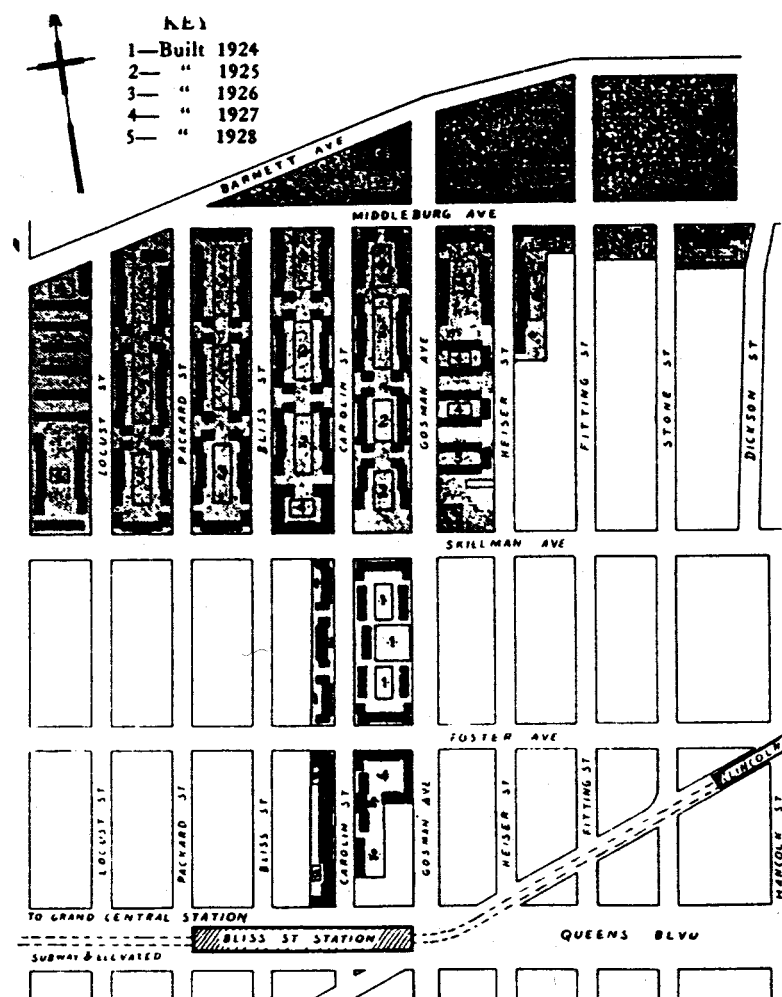


fig. 1 "Sunnyside", Long Island
1924-28, Plan
fig. 2 Typical Units

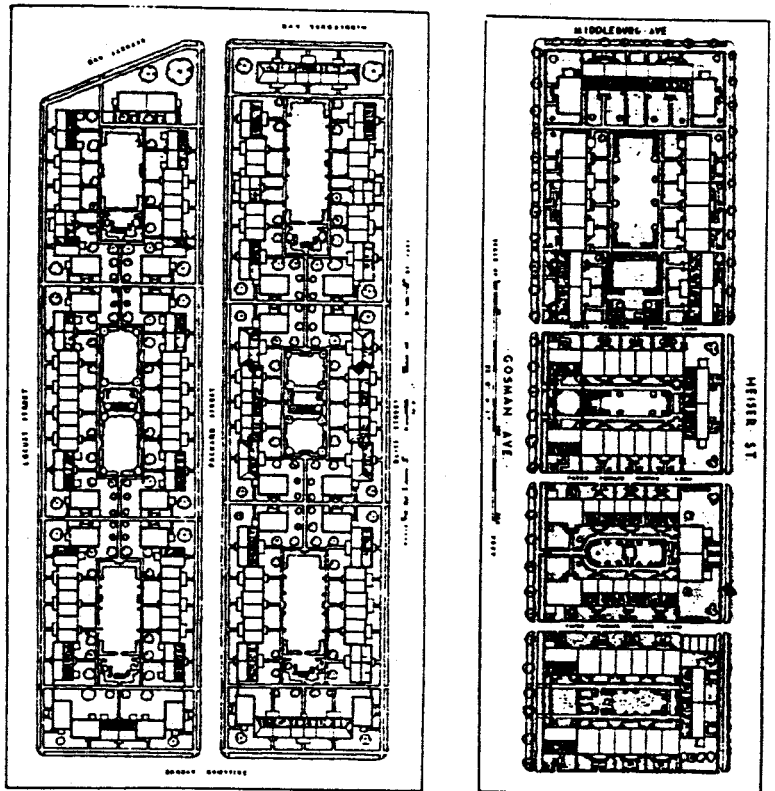


Fig. 9—Plan of two blocks with inner courts, built in 1926.

Fig. 11—Plan of part of a block with an inner court and three courts opening off the street, built in 1927.

Fig. 5—The first unit of Sunnyside, built in 1924.

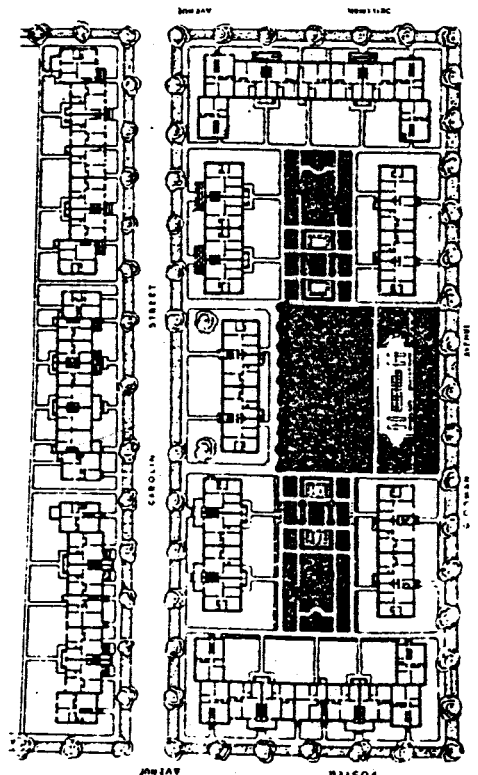


fig. 1-3 "Sunny Side", Typical Blocks

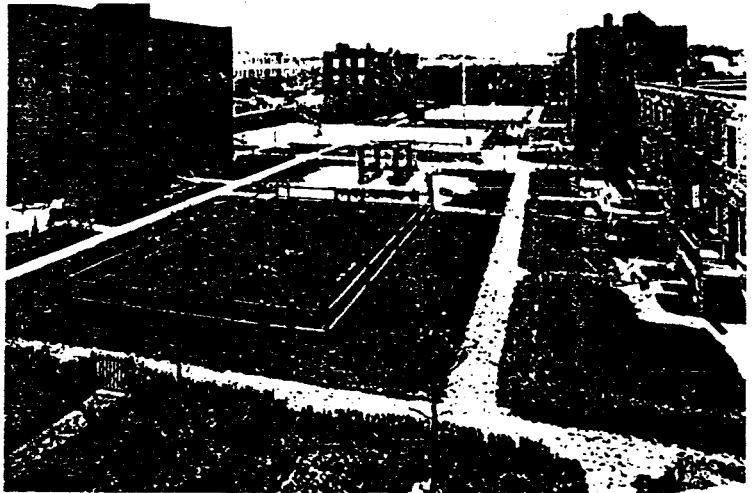


fig. 1-4 "Sunny Side", Typical Courtyards (1949)

V. CARL MACKLEY HOUSES PHILADELPHIA KASTNER AND STONOROV, ARCHITECTS

After the collapse of the economy in 1929 most private housing development like the project in Radburn came to a halt. The aggravated social and economic situation evolving in the following years demanded a radically different approach than the paternalistic idealism of the circle around Mumford, Bing, Stein and Wright.

The housing project commissioned by the Hosiery Workers Union in Philadelphia in 1931 is the first substantial project to be undertaken after the crash at "Wall Street". Designed by the architects Albert Kastner and Oskar Stonorov in collaboration with W. Pope Barney, the design is unique in its pursuit of modern principles in site plan, organization of units, functional and its aesthetic program. The experience gained in the studio of Le Corbusier prior to their immigration to the United States is evident in the concept throughout.

Based on the cooperative concept of the union, the Mackley Houses were initially financed by the union funds, but received public financial support as the first PWA (Public Works Administration) project of the Roosevelt administration.

The site encompasses three typical city blocks in the north-east of Philadelphia. The architects investigated initial site strategies ranging from buildings at the periphery of the site, thereby creating a traditional block to *Zeilenbau* (parallel rows of housing) under consideration of sun infiltration and density as typical for modern planning since the second and third CIAM conference in Frankfurt and Bruxelles. The final proposal consists of two blocks open at their narrow ends with the center pieces forming indentations

thereby articulating the surrounding open space for a proposed recreational use and sequence of circulation.

The overall symmetry does not respond to the initial diagrams and the architects' discussion of orientation. An explanation for the abandonment of this planning criteria could not be found and deserves closer attention through research of the notes in the archive of the American Heritage Foundation and the Athenaeum in Philadelphia.

The buildings are three and four story walk-ups, with laundry facilities and play areas on the top forming penthouses between two stairwells. The concept of providing playgrounds and work spaces on rooftops is similar to European precedents.

Different from examples like the *Rothenbergsort Siedlung* in Kassel or *Dammerstock* near Karlsruhe, where a communal laundry facility is located on top of a separate building, the facilities at the Mackley Houses are related to each building rather than the community as a whole. The scheme employed in Philadelphia offers the convenience of short travel distances between each apartment and the facilities, thereby avoiding the connotation of collectivity. Thus, the honorific status of the community hall with its auditorium remains separate from utilitarian functions.

The internal circulation system and the integration of a variety of different units makes the proposal special. The ground floor is occupied by small apartments directly accessible from the surrounding park. The entrance to the stairwell is located on the opposite side of the building, thereby distributing the approaching pedestrian traffic to both sides. Each stairwell serves two units per floor referred to as the "*German*" scheme in the notes of Kastner. The scheme, however, is altered to include a porch from which the individual units are accessed. While Otto Haesler in his *Rothenberg Community* of 1929 provided a sizable porch for each unit next to the

entrance, Stonorov and Kastner introduced a shared open space. The plans of the apartment in the upper stories vary in size from two to five bedrooms. The entrance leads without foyer into the living room, a condition avoided by the European architects. From the living room a small hallway or vestibule is reached leading to the bedrooms and bath as well as to the kitchen. The isolated position of the kitchen in vicinity to the sleeping quarter is unique for modern housing and seems workable only as an eat-in-kitchen with the provision of a dining table as demonstrated in the axonometric drawing. The rationale for this decision is not documented in the publications either. Preliminary sketches of *maisonette* units, however, show evidence that the architects did not neglect the desirable proximity of kitchen, dining and living spaces as demanded by modern standards.

In the larger units, one of the bedrooms is accessible only from the living room resulting in an increased area required for circulation and compromised privacy.

The buildings are constructed in steel reinforced concrete system using piers and floor slabs as load bearing devices with non-bearing masonry infill. Initial concepts in steel are documented in the notes by Kastner. The exterior is clad with ceramic tile.

The project provides a community hall for gatherings of the residents. The recreation facilities, a pool and a wading pool are placed adjacent to the community hall. In the same blocks the kindergarten is located in the ground floor of a residential building. The lower level along Bristol Street contains shops occupied by businesses like a hairdresser.

The garage under the eastern part of the complex is an amenity unknown to European housing for workers.

The community is still in an overall satisfactory condition today, only the replacement of the steel casement windows with double-hung windows in the residential units compromise the appearance.

Literature:

Architectural Forum, February 1935

First Housing Projects Approved By Public Works Administration, in: Architectural Record, Sept 1933

Newman, Bernard J., Housing Research in Philadelphia, in Architectural Record, September

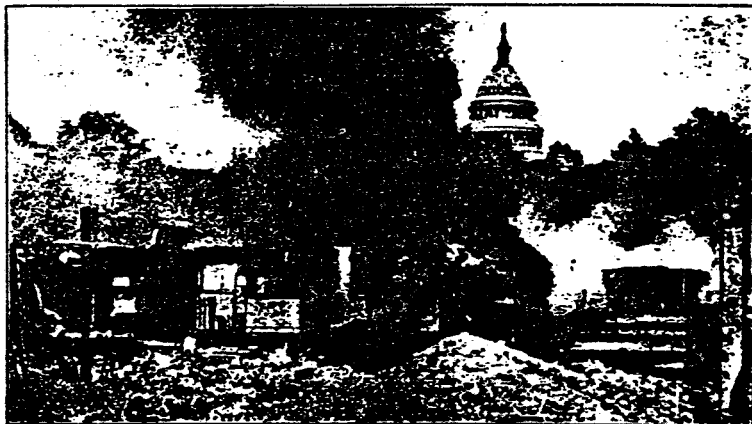
1933, p.170-174

Santostefano, Piero, Le Mackley Houses di Kastner e Stonorov a Philadelphia, Roma 1982



RESULT OF THE "MAILED FIST"

Charred skeletons of painful hovels and smoking ruins are all that remain of Camp Marks in Washington, D. C., where thousands of veterans lived before their BLOODY BATTLE with the United States Army, July 28, 1912.



FIRE IN THE SHADOWS OF THE CAPITOL

One of the thousands of homes occupied in Washington by the war veterans, shown going up in smoke as the vets were driven out of town by "Hooper's Brigade."



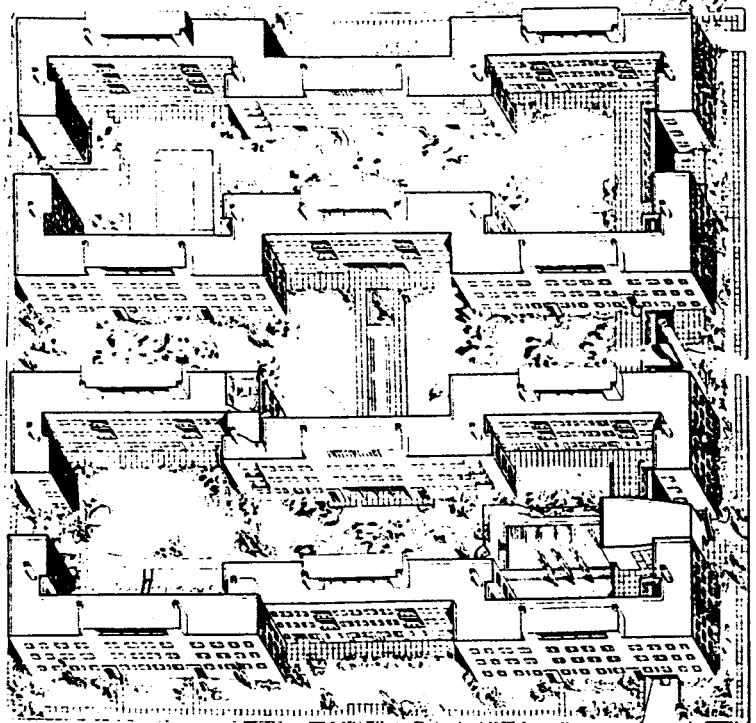
UNITED STATES INFANTRY IN ACTION

United States Troops, with fixed bayonets and gas bombs, evicting the B. E. F. from Government property in Washington, Thursday, July 24, 1912.

fig. 1-3 "The Battle Of Washington"
1932



fig. 1 Workers Riots in Philadelphia
1931



CARL MACKLEY HOUSES—PHILADELPHIA

KASTNER AND STONOROV; W. POPE BARNEY, ARCHITECTS

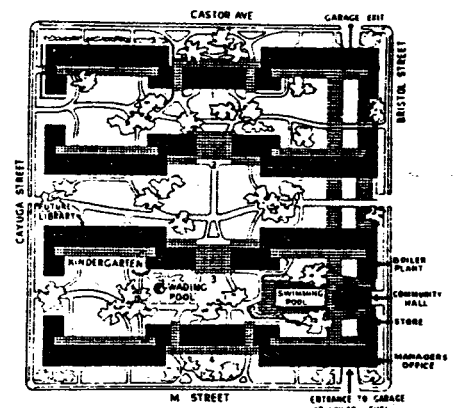
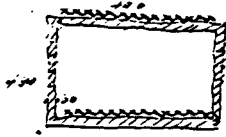


fig. 1 "Carl Mackley Houses",
Philadelphia 1931-35, Axonometry
fig. 2. Site Plan
fig. 3 Albert Kastner and Oskar
Stonorov

Comparison & Solutions for a plot 480 x 490 ft.
Adapted from "The Art of Housing Workers - Philadelphia"

1.

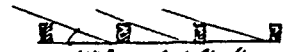
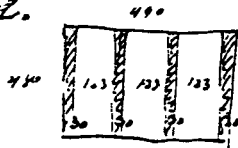


1820 ft running length of that one
860 ft north exposure or 47%

Area covered by bldg. (30 ft wide) 54 600 sq ft
 or 23% of the total plot of 235 700 sq ft

Assuming that the limit of walk-ups is 4 stories
 or $(4 \times 9.5 \text{ ft}) = 38 \text{ ft}$ the cubage is 2 074 800 cu ft.
 not allowing for cellar and roof space.

2.



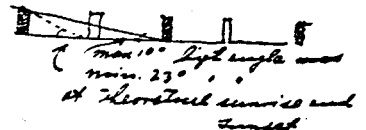
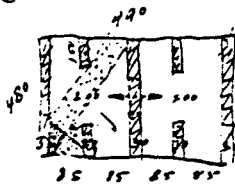
16% angle of light
 at sunrise and sunset of latitude

1920 ft running length
no north exposure

Area covered by bldg. (30 ft wide) = 57 600 sq ft
 or 24 1/2% of the total land of 235 700 sq ft

At 4 story walk-up (4×9.5) cubage = 2 180 800 cu ft.
 not allowing cellar and roof space.

3.



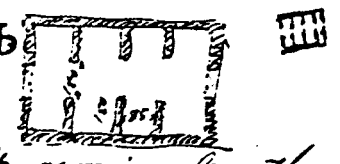
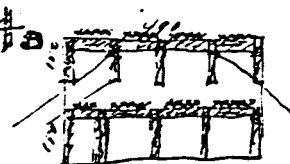
max 10° light angle and
 min. 23°
 at theoretical sunrise and sunset

2040 ft. running length
no north exposure

Area covered by bldg. (30 ft wide) 61 200 sq ft
 or 26% of total land area of 235 700 sq ft

At 4 story walk-up (4×9.5) cubage = 2 325 600 cu ft.
 not allowing for cellar & roof

4.



2140 ft running length
 of which 680 ft north exposure or 31%

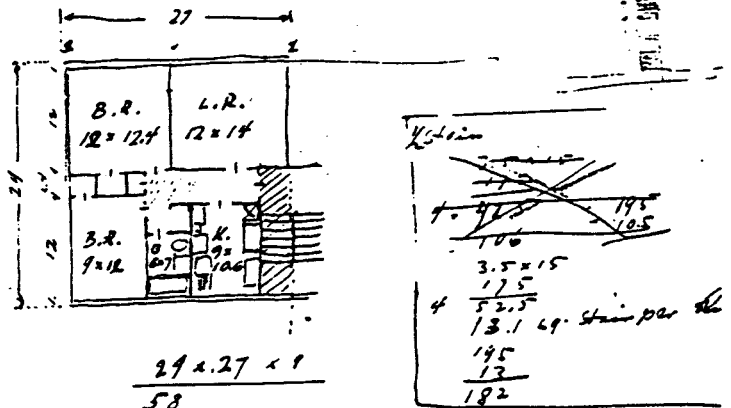
Area covered by bldg. (30 ft wide) 64 200 sq ft
 or 27 1/2% of total land area of 235 700 sq ft

At 4 story walk-up (38 ft) cubage = 2 439 000 cu ft.

fig. 1-4 Notes by Albert Kastner

PLATE XXIX

Scheme - B - (German) 4-Story walk-up

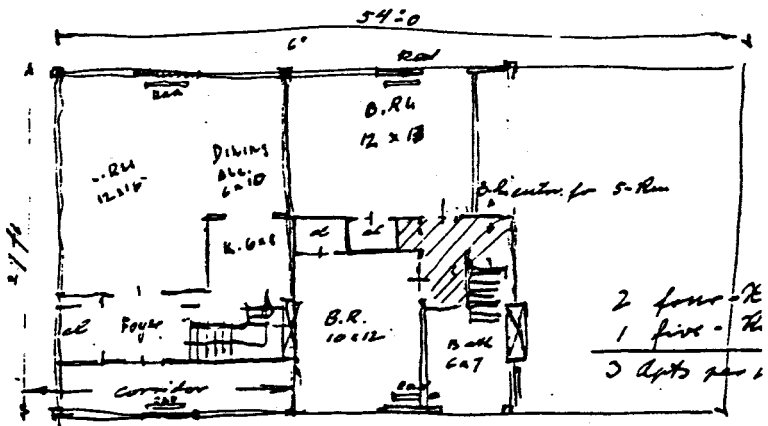


$$\begin{array}{r} 27 \times 27 \times 9 \\ 58 \\ \hline 203 \\ \hline 783 \times 9 \end{array}$$

- 4) 7,047 $\frac{\text{cu. ft.}}{\text{sq. ft.}}$ per apt. incl. Stair public.
- 9) 1762 $\frac{\text{sq. ft.}}{\text{cu. ft.}}$ per Room
- 185 sq. ft. per Room

Cross area per Room including public.

Scheme - C - (Alfred) 4 Story Walk-up. Stair way hall to reach 3rd.



lower plan upper plan

$$\begin{array}{r} 54 \times 27 \\ 108 \\ \hline 378 \\ 1458 \times 18 \\ \hline 11664 \\ 26244 \text{ cu. ft. per unit} \end{array}$$

$$\begin{array}{r} 24 \times 9 = 219 \text{ cu. ft. per Room} \\ 144 \times 21 = 3024 \text{ sq. ft. per Room} \end{array}$$

Cross area per Room without public = 224 sq. ft.

Cross-ventilation

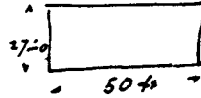
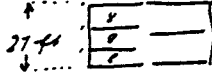
fig. 1-3 Notes by Albert Kastner

Scheme - A (over 65)

6 Story walk-up

Stair hall to reach 5th Floor

unit	1	1-room	1
	1	3-room	3
	2	4-room	8
	1	5-room	5
			<u>17 Rooms</u>



unit floor area
28.7 per Room

$$27 \times 27 \times 50 = 1350 \times 27$$

$$2700$$

$$4450$$

17)

$$\underline{36,450} \text{ cu. ft. per unit}$$

$$\frac{34}{24}$$

$$\frac{17}{75}$$

$$\frac{68}{70}$$

9) $\underline{2,144} \text{ cu. ft. per Room}$

$$\frac{22}{237}$$

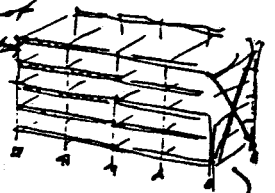
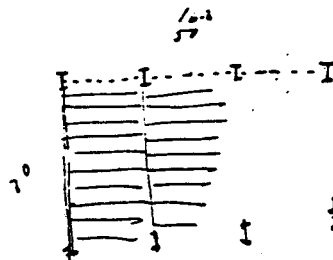
$\underline{237} \text{ sq. ft. per Room}$

2) Cross-area per Room without ^{public} Stairway
= 237 sq. ft.

Three view cross section illustration

steel construction

(non-fire proof)
part-clear hdy. 1/2" C. fire proof
or Intermediate class fire protection



three-brind bracing of main
(and every 150 ft.)
complete bracing of every
pipe shaft.

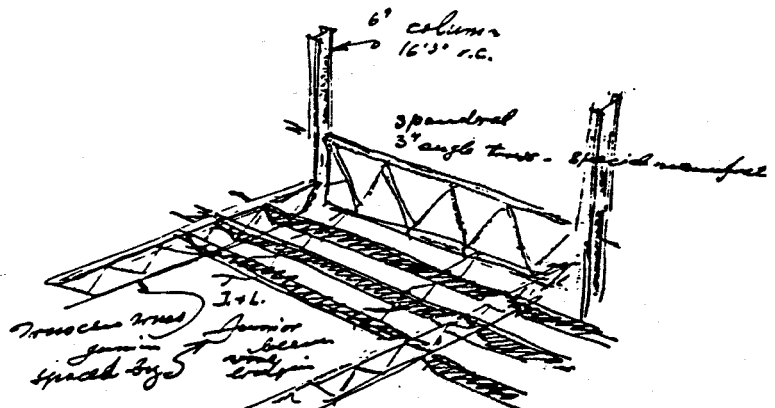


fig. 1-3 Notes by Albert Kastner

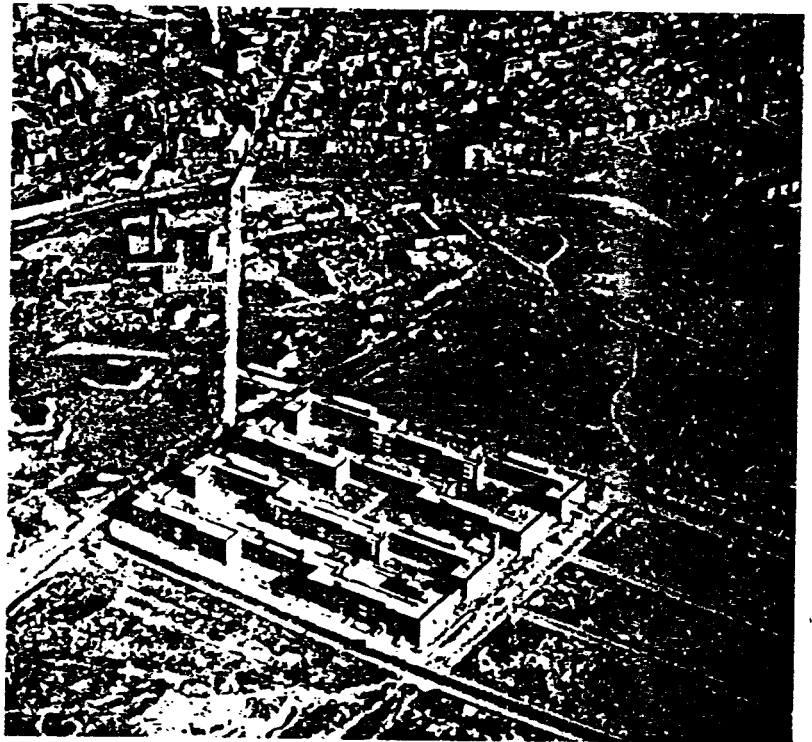
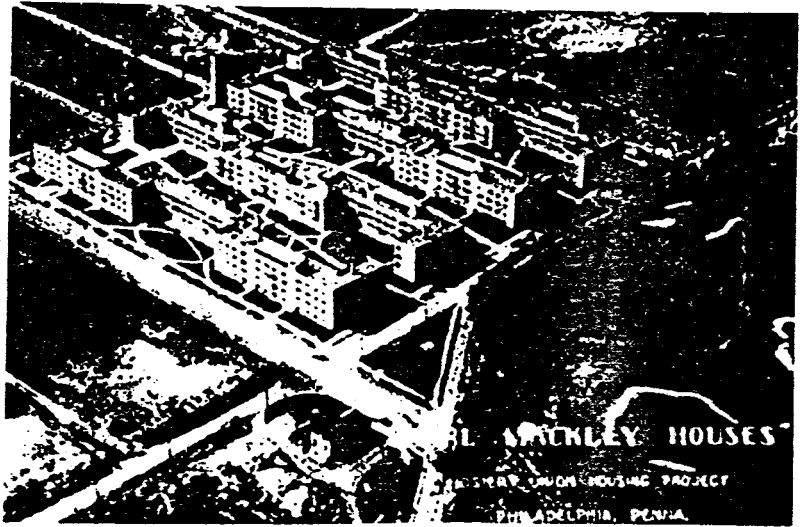


fig. 1-3 Overall Views

PLATE XXXII

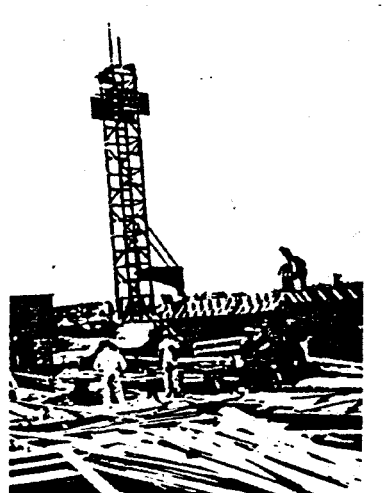
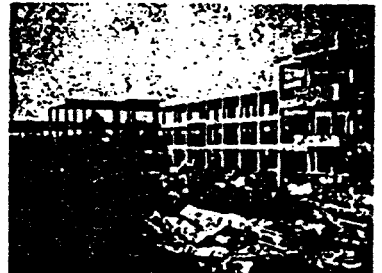
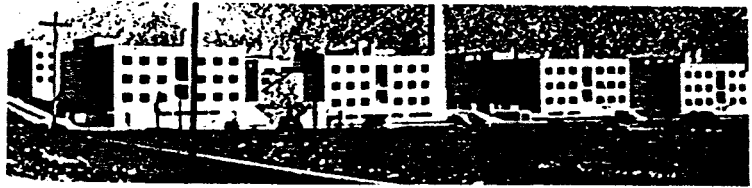


fig. 1-12 "Mackley Houses" during Construction

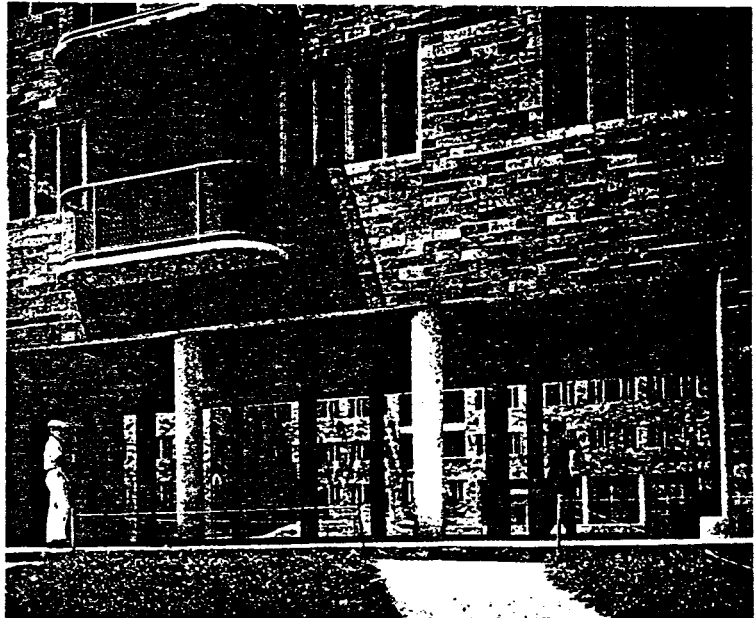


fig. 1 "Mackley Houses" Entrance to Garage
fig. 2,3 "Pilotis" at Walk-Throughs

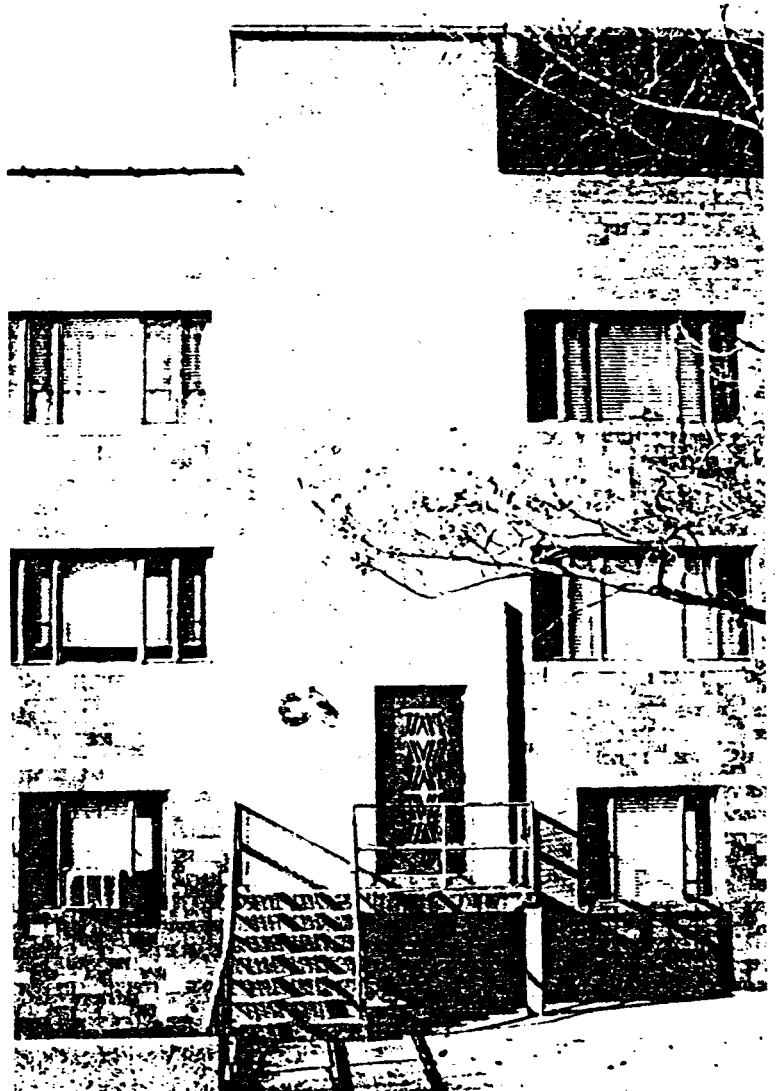


fig. 1 "Mackley Houses" Entrance to Stairwell

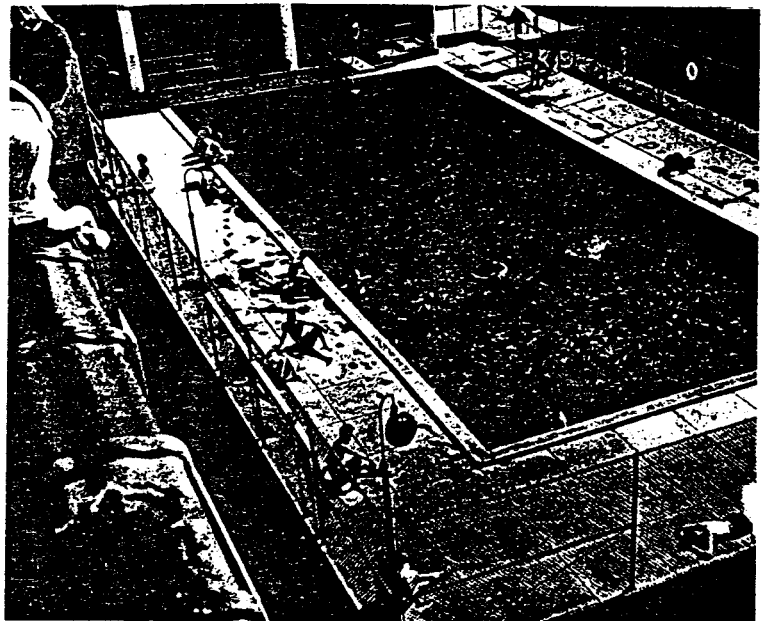


fig. 1-3 "Mackley Houses"
Recreation in Court Yards



fig. 1 "Mackley Houses" Court Yard
Fig. 2 Day Care on Roof Terrasse

PLATE XXXVII

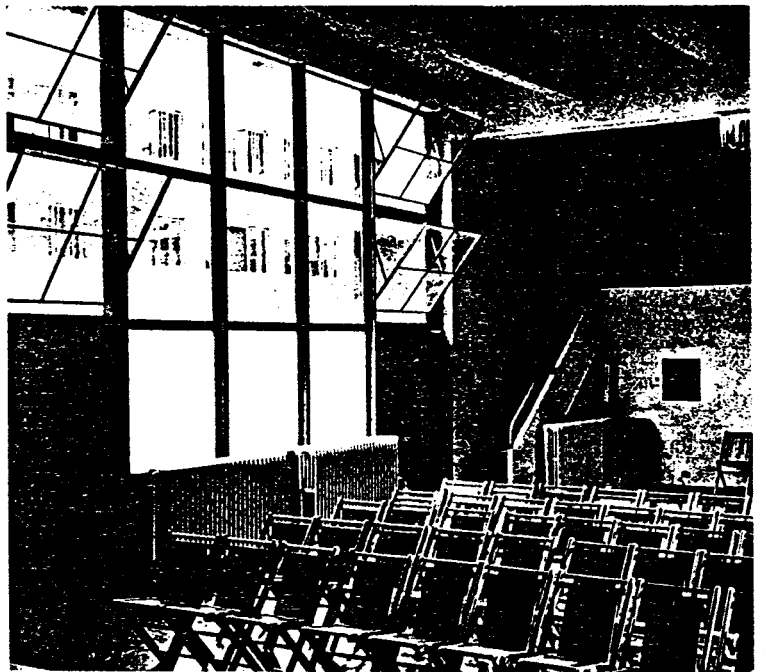
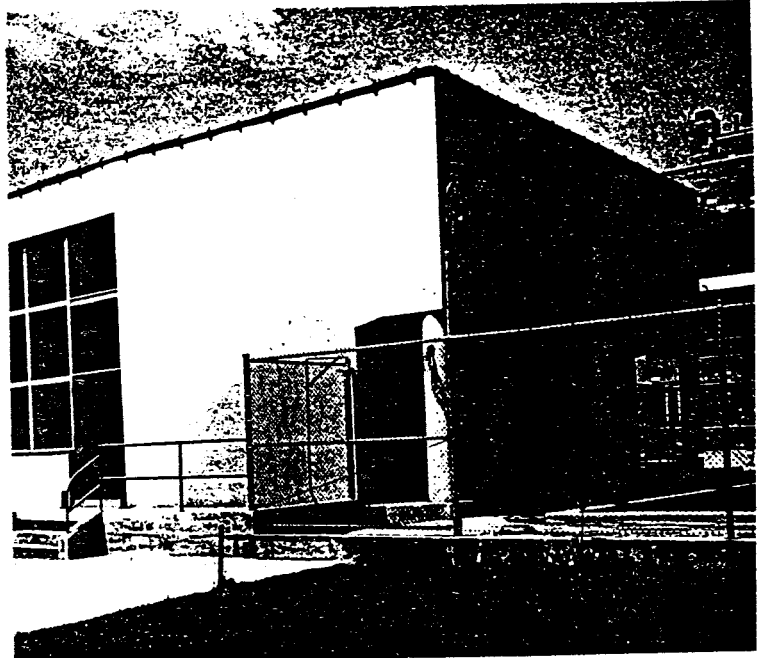
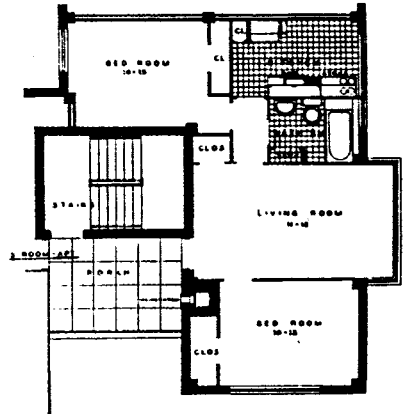


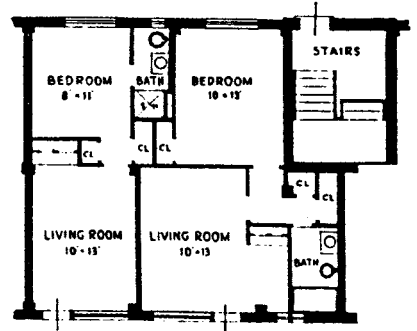
fig. 1-2 "Mackley Houses"
Community Hall
fig. 3 Laundry at Penthouses

PLATE XXXVIII

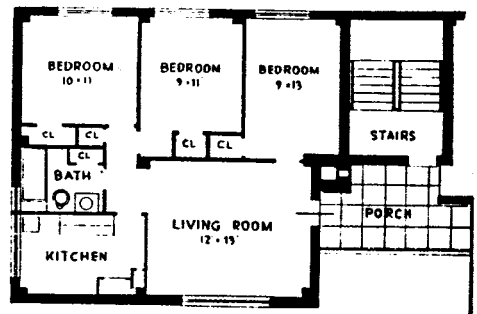
SPECIAL FOUR-ROOM APARTMENT



TWO AND TWO-AND-A-HALF-ROOM UNITS



FOUR-ROOM APARTMENT



FIVE-ROOM APARTMENT

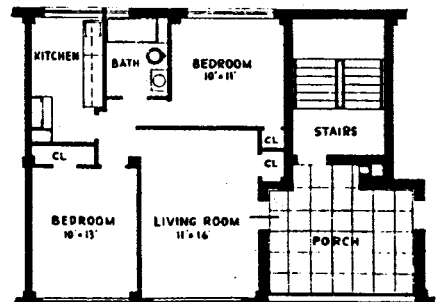
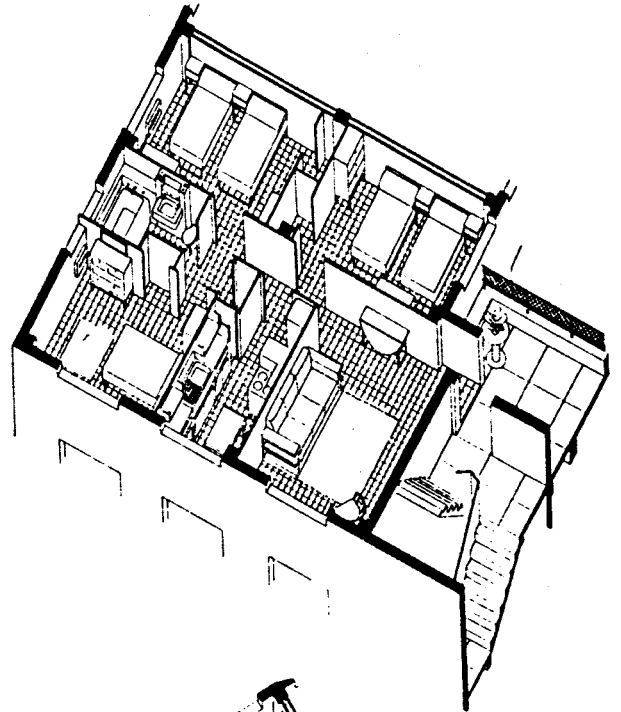
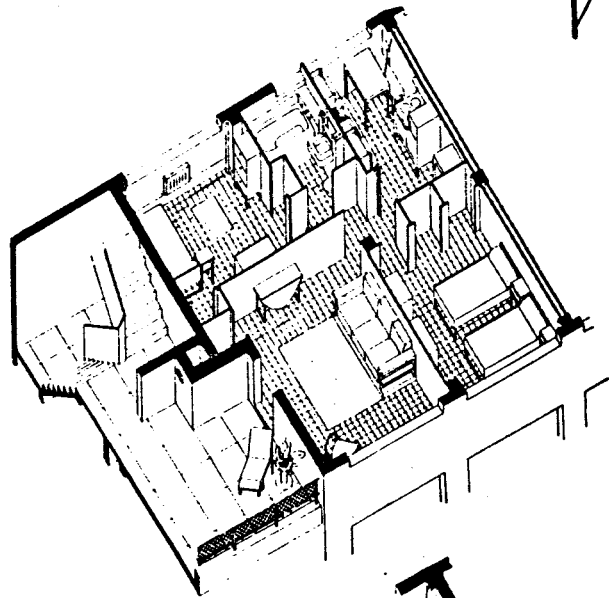


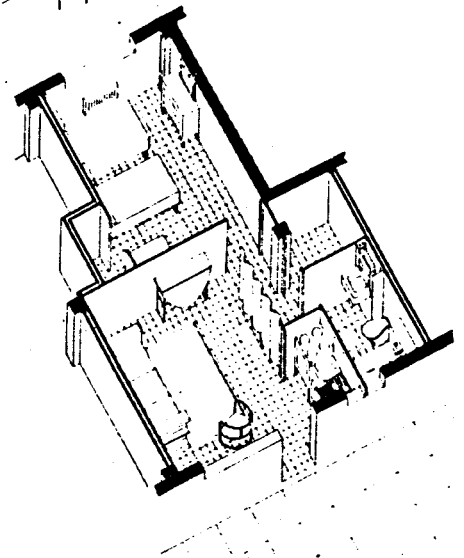
fig. 1-4 "Mackley Houses" Typical Plans



26% OF TOTAL APARTMENTS ARE LIKE THIS TYPICAL FIVE ROOM SUITE.



45% OF APARTMENTS ARE LIKE THIS TYPICAL FOUR ROOM SUITE.



29% OF TOTAL APARTMENTS ARE LIKE THIS TYPICAL 2 1/2 ROOM SUITE.

fig. 1-4 "Mackley Houses" Typical Units

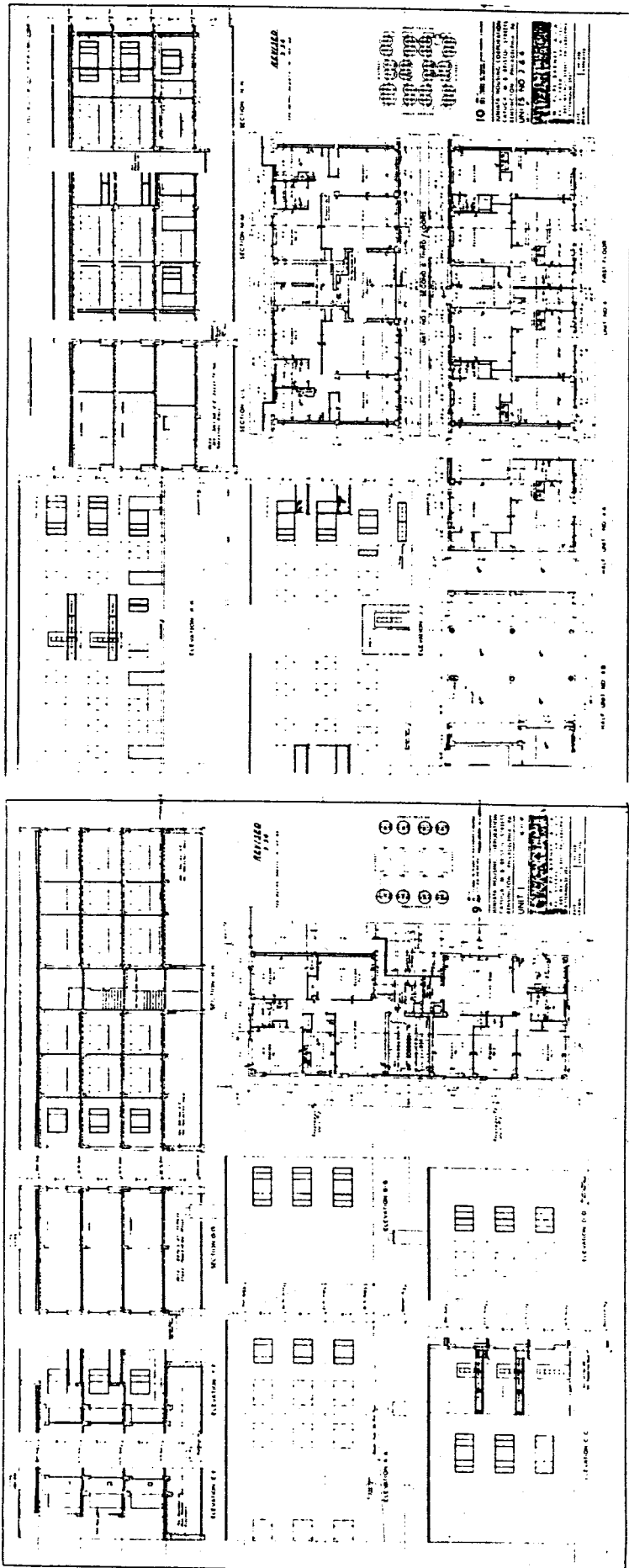


fig. 1,2 "Mackley Houses" Working Drawings

VI. GREENBELT MARYLAND

HALE WALKER, PLANNER

**DOUGLAS D. ELLINGTON, R. J. WADSWORTH,
ARCHITECTS**

The Greenbelt Program represents an intervention in the mechanism of the privately organized housing market on an unprecedented scale. Previous federal housing programs have only existed for a limited time and only in cases of national emergencies caused by war. The Greenbelt Program treated the shortage of housing caused by the failure of the free market as a similar situation justifying its government intervention. The administration of President Roosevelt initiated a federal housing program in 1934 as a reaction to the shortage of dwellings after the depression in 1929-1933. The Federal Housing Administration, operating under the National Housing Act of 1934 and its amendments of 1935 and 1936 was installed as the principal administrative instrument to insure private investment in the construction or rehabilitation of housing projects. The Housing Division of the Public Works Administration, created in 1933, served as the main executive authority to purchase sites, demolish unfit dwellings in slum areas, erect low-rent housing projects for families of low income, provide for direct local management, renting of dwellings and supervising of the operation of projects financed with PWA funds. The first projects were organized and planned by the Suburban Division of the Resettlement Administration. Organized in 1935, the objective was to construct rural communities beyond the limits of metropolitan areas with the intention of demonstrating a new method of land-use, including collective ownership as promoted by Ebenezer Howard. Initially, the administration intended to relocate inhabitants of the urban slums or provide

housing for the rural poor population. This objective, however, was abandoned in the course of time.

The Resettlement Administration planned four towns that follow the principles of Ebenezer Howard's Garden City with the exception of places for employment. For each of the towns the RA installed planning teams that worked independently from each other, thereby causing significant differences in the lay-out. All towns were located close to metropolitan centers: Greenbelt - Washington, D.C.; Greenhill - Cincinnati; Greendale - Milwaukee; Greenbrook - Newark. The locations of the towns were chosen for various reasons. One aspect was the required use of unskilled and unemployed workers found in the depressed economy of major centers for the construction. This condition influenced also the method of conventional building construction used with the exception of few prefabricated steel structures. It is important to recognize the difference in attitude here and previously in Europe. There, the lack of skilled workers has resulted in the application of industrialized methods of construction. ten years later in the USA the same question was answered differently. Furthermore, the necessity to ensure the continuous income from rent payments mandated a tenant selection from stable employed groups of the population also found only in the vicinity of major cities. Ultimately, the schedule to begin construction in 1935 eliminated those initially considered places in which land could not be purchased in time.

With the exception of Greenbrook, where construction was stopped in 1936 when the District of Columbia's Court of Appeals challenged the constitutionality of the Greenbelt Program in its entirety, the towns were completed by 1938.

The community Greenbelt in Maryland was the first to be constructed in 1935. The site, 3000 acres of wooded land, was already in the possession of the Resettlement Administration. Its vicinity to the capital Washington, D.C., made the locality predestinated for a physical demonstration of the housing policies of the New Deal. Greenbelt was supposed to incorporate multiple political and planning concepts, though occasionally conflicting, that went beyond the notion of just another Garden City like Radburn from the beginning. The original intention to provide for the rural poor and the urban slum dwellers was waived instantly. The administration decided to built quality houses for the typical American family with moderate income instead, in the hope to achieve an identification of the electorate with the model project. Prospective tenants were subject to a rigorous selection process that eliminated not only all black families and those with undesirable social habits, but even all families with working wives. As a result of the tenant selection process, the community reflected an image of the New Deal as perceived by the propagandists of the administration: the harmonic, idealistic "White City" devoid of social conflicts of any kind.

According to Clarence Stein "Greenbelt, for various reasons, carried out and developed the Radburn. Idea more fully and completely than either of the other towns".(1) The overall lay-out of the community follows the crescent shaped ridge. In the center an artificial lake has been created with adjacent community buildings, a cooperatively organized commercial center and recreational facilities The residential areas consist of five superblock served by main peripheral roads in the shape of semi-circles. As in Radburn, cul-de-sacs provide access for automobiles. Groups of 2-story row houses provide homes for 574 families. The

units are provided with double entrances from either the service court or the communal park. The 3-story apartment buildings comprising 306 units are located closest to the central institutions along the inner main street. A system of paths connects the parks in the center of the superblocks with the community center. As in Radburn, underpasses are used to provide safety for pedestrians. The lay-out of the residential plans are expressing no desire to experiment with conventional notions and attitudes, but demonstrate the intent to provide simple and well considered plan arrangements. The site plan informs the placement of the principal functional areas within the units: kitchens are located closest to the entrance from the service court, living rooms and formal entrances face the park. The lay-out of the upper story responds primarily to the lot size with the master bedroom facing either park or service court depending on the width of the unit. The efficiency apartments are arranged as four-plexes, pairs of 1-bedroom units are located on each floor of the larger apartment buildings. The smaller units feature kitchen alcoves open to the living room, while the townhouses provide for a conventional kitchen and a storage space substituting for a basement.

The desire to communicate a progressive image has found manifestation in the stylistic features of the town. With the exception of the experimental steel houses, the buildings show the use of conventional concrete block or brick masonry with either flat or - in a lesser number - pitched gable roofs. The mandated use of unskilled labor and the desire to achieve a high quality of construction has influenced this decision to depart from methods typically associated with progressive American construction. The planners and architects provide an additional reason in considerations of the long-

term savings due to reduced needs for maintenance.

Greenbelt has been conceived as a comprehensively planned project like some of its European precedents. The provision of furniture designed for Greenbelt and made affordable through subsidized installment buying plans is allowing a comparison to the furniture design in Frankfurt. Produced by local firms, the furniture somehow lack the rigor of its counterparts, but nevertheless show a modern attitude in the unconcealed use of plywood.

The exterior of most units is painted white, the apartment buildings include the use of glass block. This and the horizontal banding between windows similar to facade treatments observed in Hamburg's public housing, constitute an appearance closer to the American Art Deco than classic modern or international style. The use of shallow relief sculptures at the public school in the center of the community reinforces the stylistic classification. In 1940-41 the administration added 1000 wood frame houses with wood siding surrounding courtyards open to exterior peripheral street. Although considered a temporary provision for employees of the war production and military personnel the structures are still in use. The lack of integration into the sophisticated planning concept of the original town has evoked criticism and led to the label "war-houses" as a description for inferior quality. At Greenbelt the idea of collective ownership has survived the disinvestment from its town by the federal administration. Today most of the original residential buildings are owned by a home owners association. The supermarket and the gas station are still organized as cooperatives indicating a continuous strength of the initial collective spirit among the first generation of inhabitants. The aesthetic quality of Greenbelt has suffered from unfortunate additions like the library and some

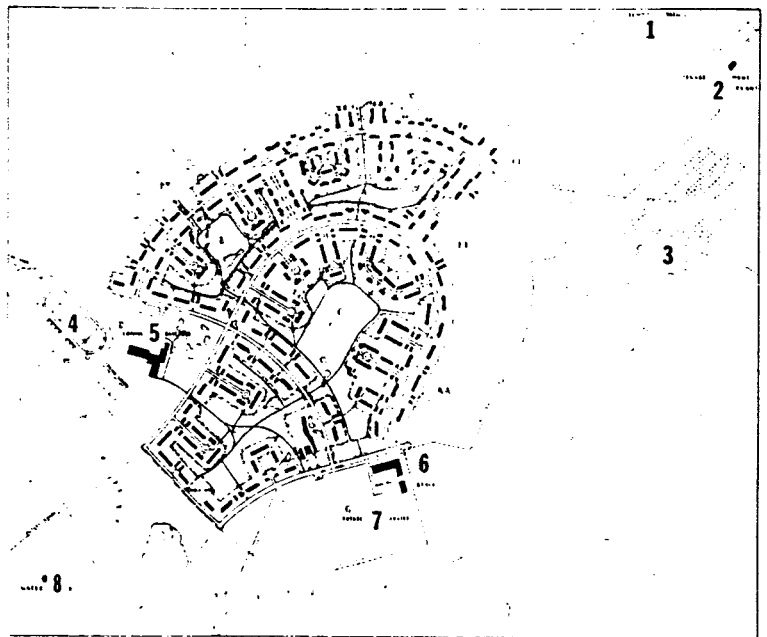
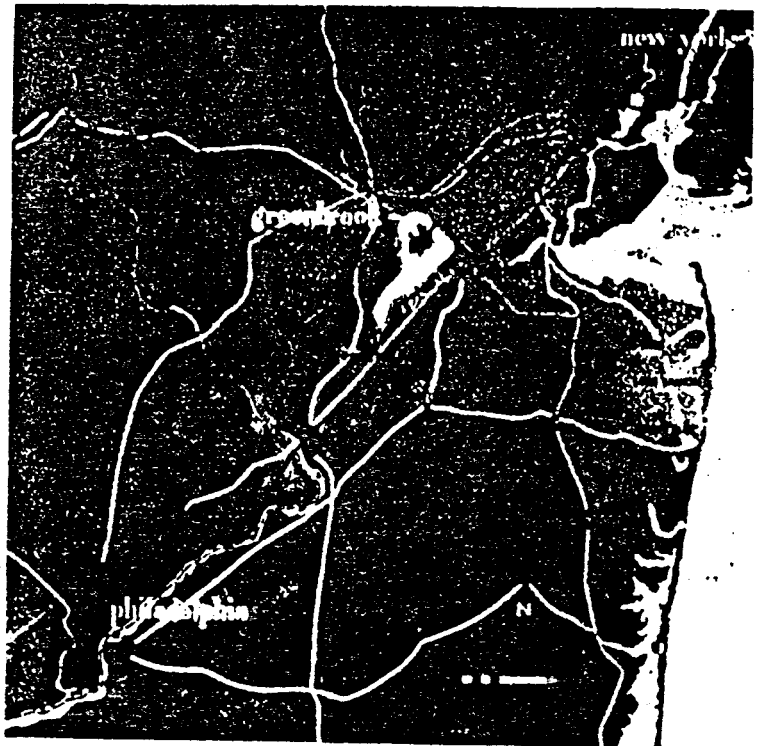
structures in the commercial center. Seemingly uncontrolled additions to private residences starts to compromise the clarity of the original pattern within the superblocks. Though the town has received some attention from preservationist groups sponsoring the restoration of "The White City", Greenbelt has been subject to uncontrolled development infringing on the surrounding greenbelt. The pressure from commercial development is expected to increase with the construction of a subway connecting Greenbelt with Washington, D.C.

Notes:

(1) Stein, p.127

Literature:

- Architectural Record, September 1936, p. 197, 215, 219-222;
- Arnold, Joseph L., Greenbelt. Maryland 1936-1984, in Built Environment, vol. o, nos. 3/4, p.198-208;
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- Stern, Robert A. M. (edit.), The Anglo-American Suburb, AD Architectural Design Profile, 1981, p.85;
- Warner, George A., Greenbelt: The Cooperative Community, New York;
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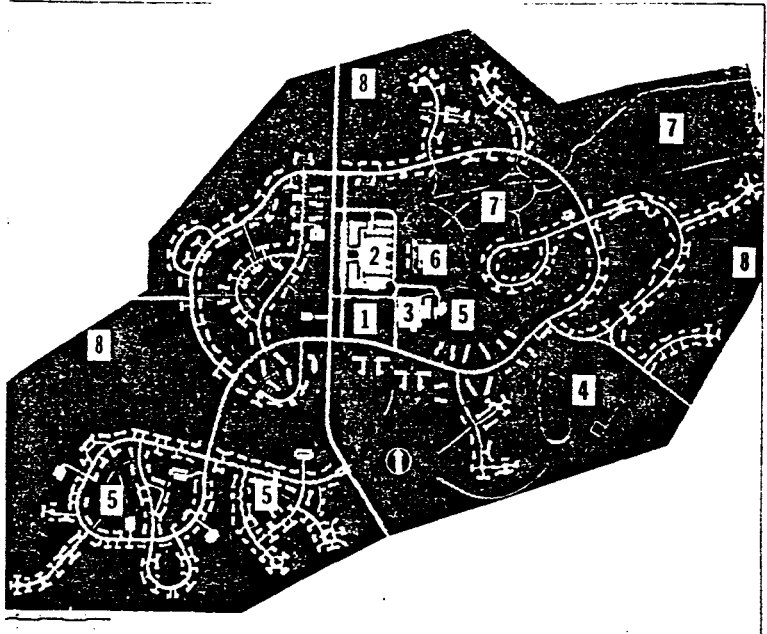


EXPLANATION: 1. Parking station 2. Sewage treatment plant 3. Staircase 4. Athletic field 5. Community Building 6. Shops and Garage 7. Future open Center 8. Avenue



fig. 1-3 "Greenbrook"

PLATE XLIII



EXPLANATION: 1. Main Campus, 2. Commercial Center, 3. Sports, 4. Athletic Field, 5. Internal Park, 6. Swimming Pool, 7. Sites for Future Residential Development, 8. Greenbelt

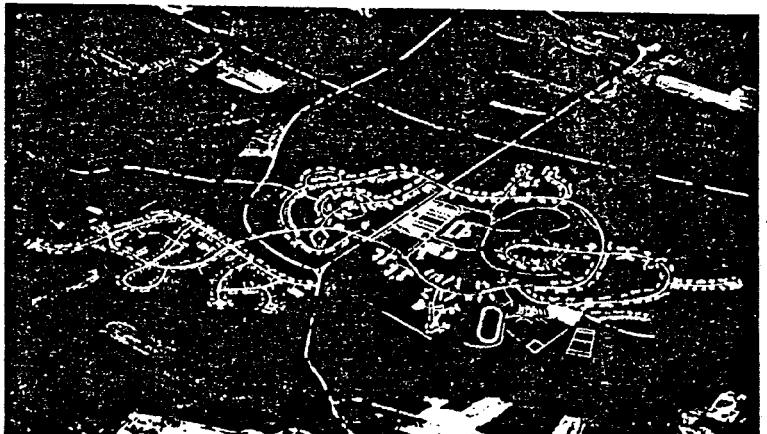
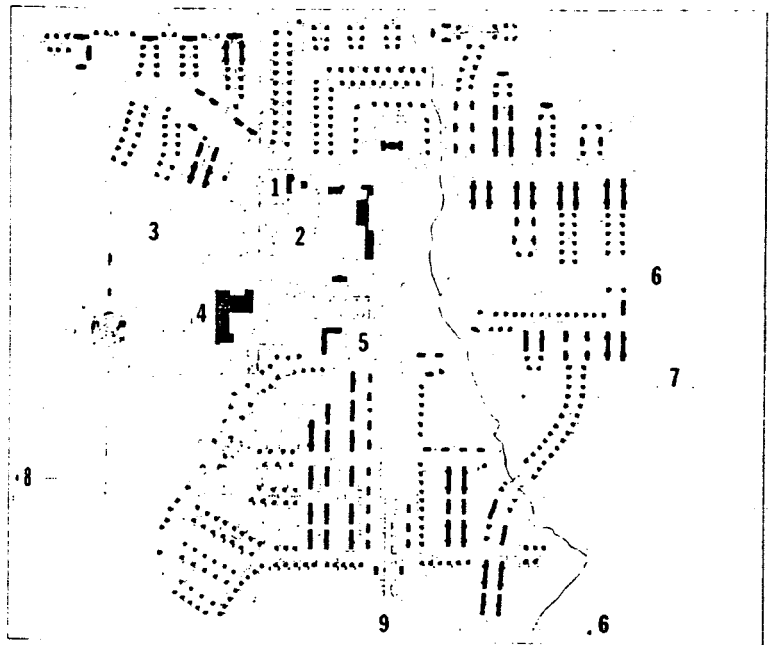


fig. 1-3 "Greenhills"

PLATE XLIV



EXPLANATION: 1 Church 2 Site of Old School 3 Park 4 Community Building 5 Site Reserved for Future Library 6 Well House 7 Site Reserved for Church and Parsonage School 8 Water Tower 9 Bridge 1929

Town Planners: Jacob L. Crane, Elbert Peets
 Architects: Harry H. Bentley, Walter G. Thomas
 Coordinator: Fred L. Naumer

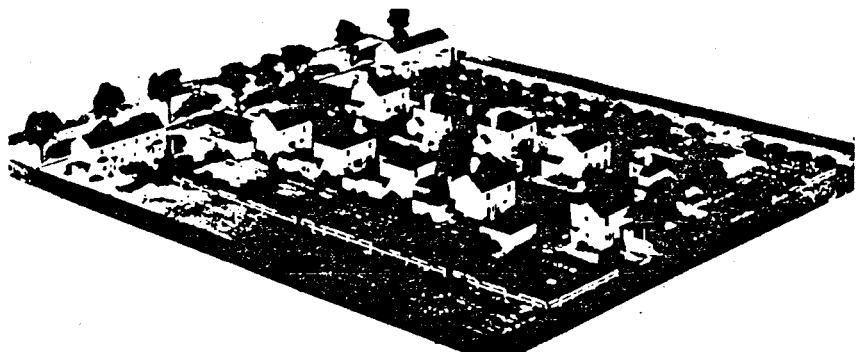
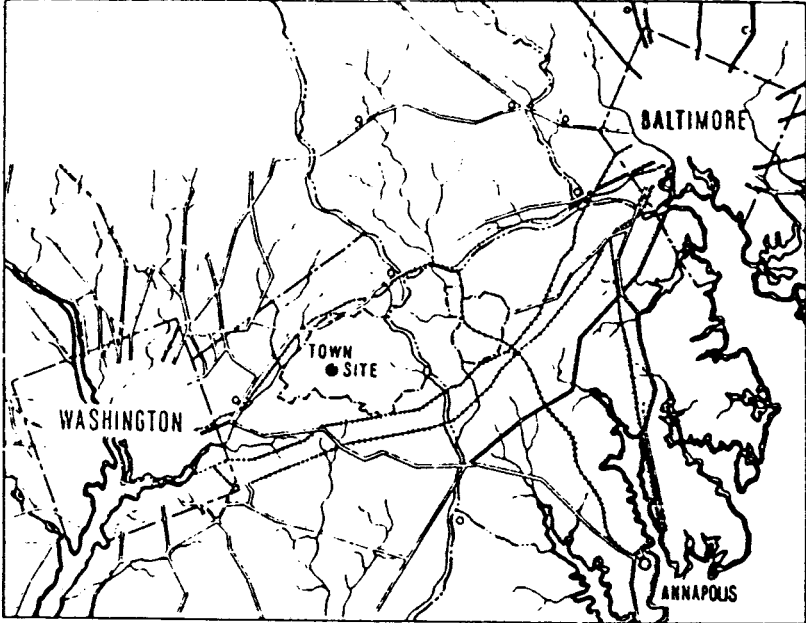


fig. 1-3 "Greendale"



EXPLANATION 1. Office 2. Commercial 3. Industrial 4. Residential 5. Store Group 6. Rural Home

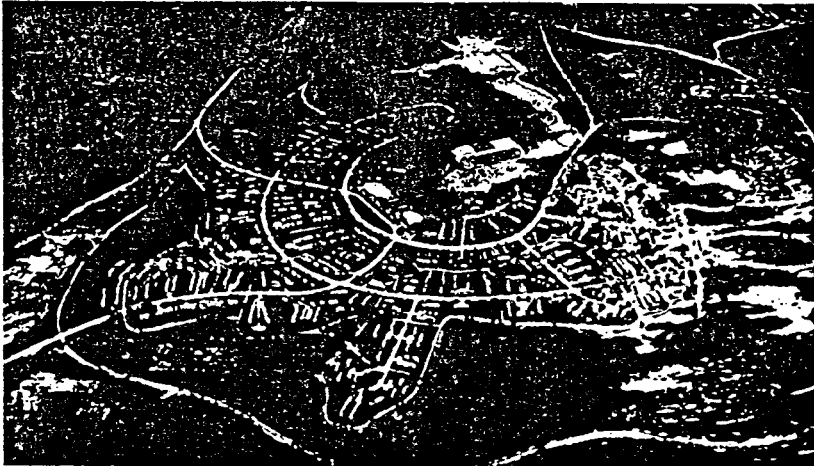


fig. 1-3 "Greenbelt"

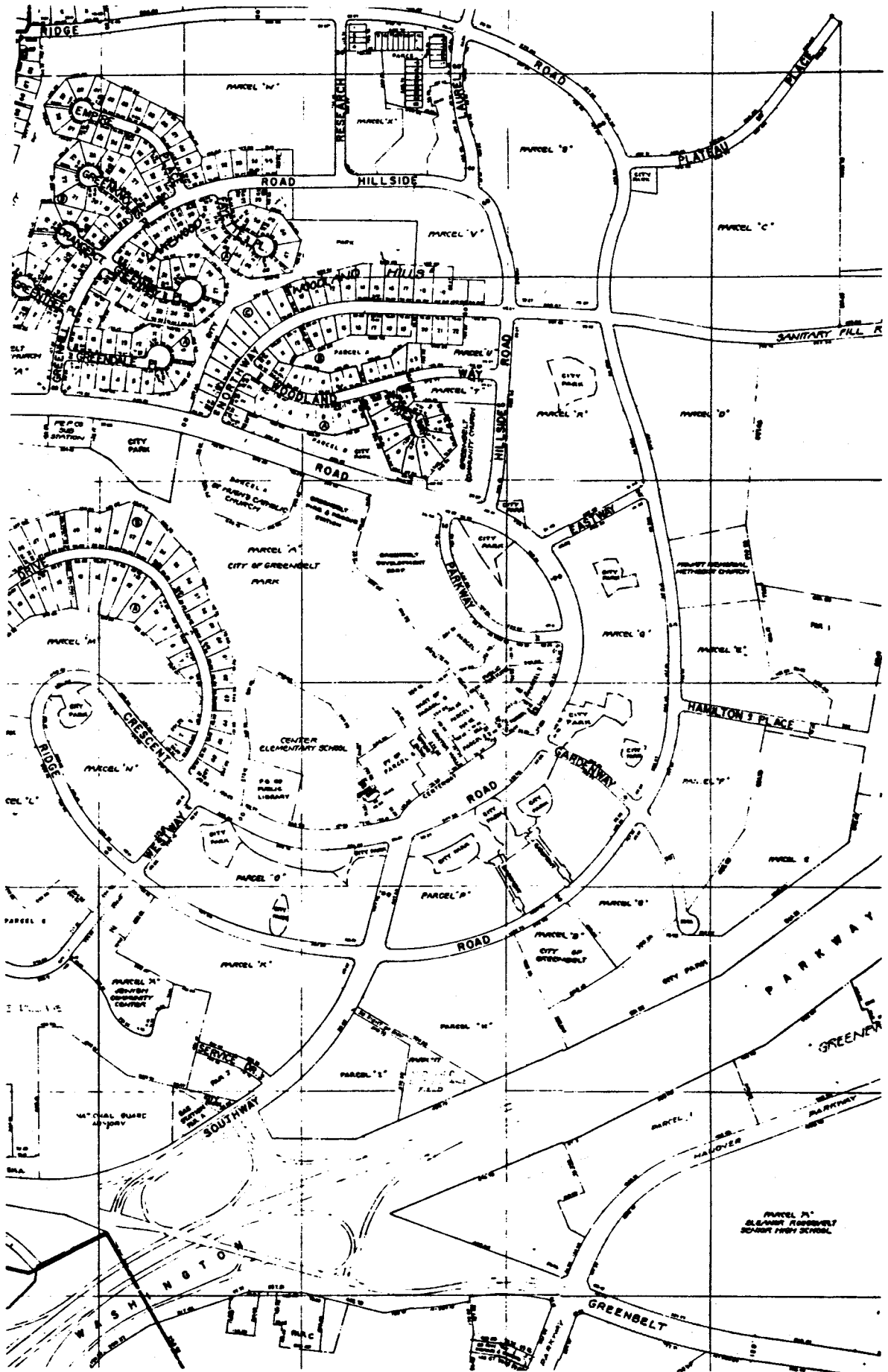


fig. 1 "Greenbelt" Plot Plan 1987

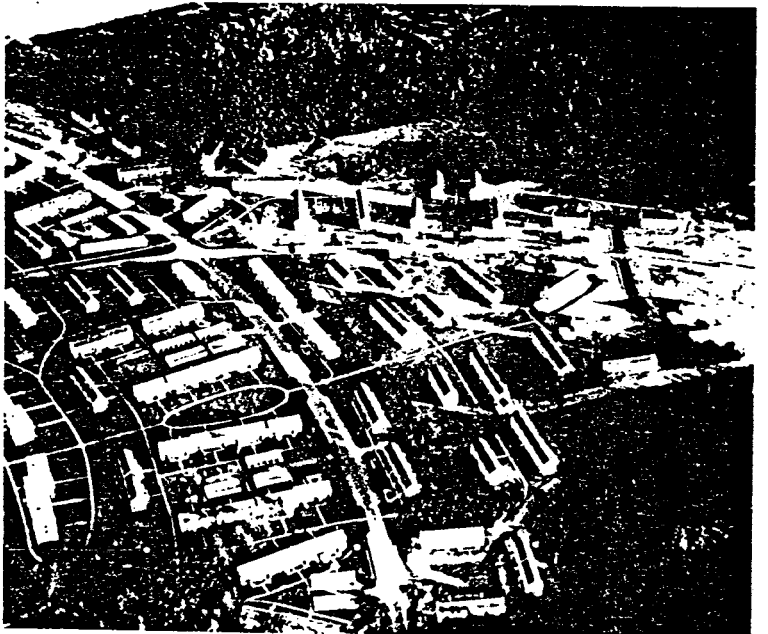
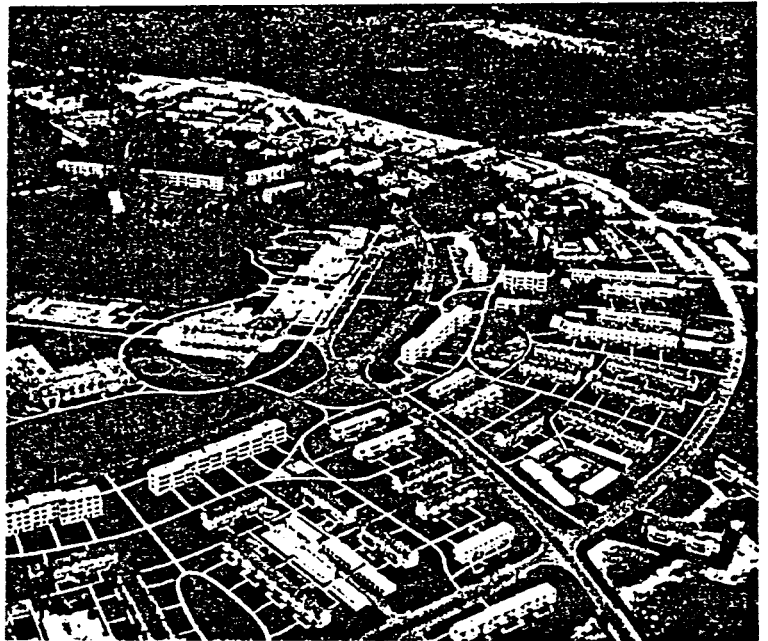


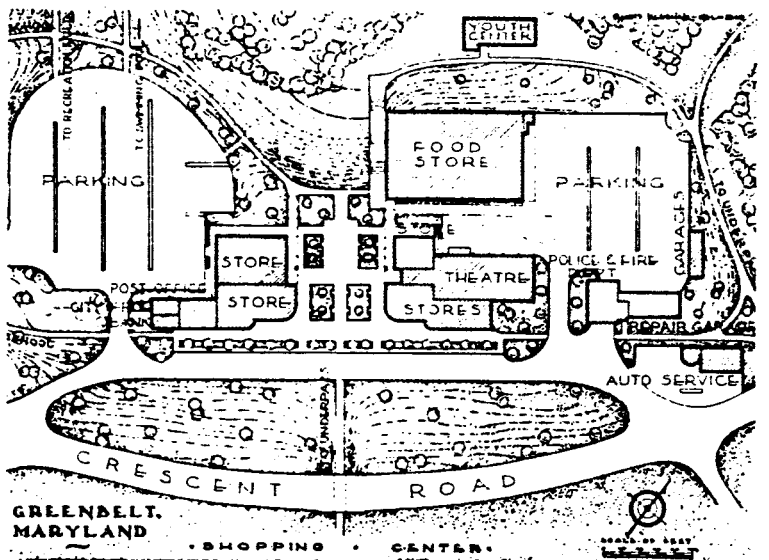
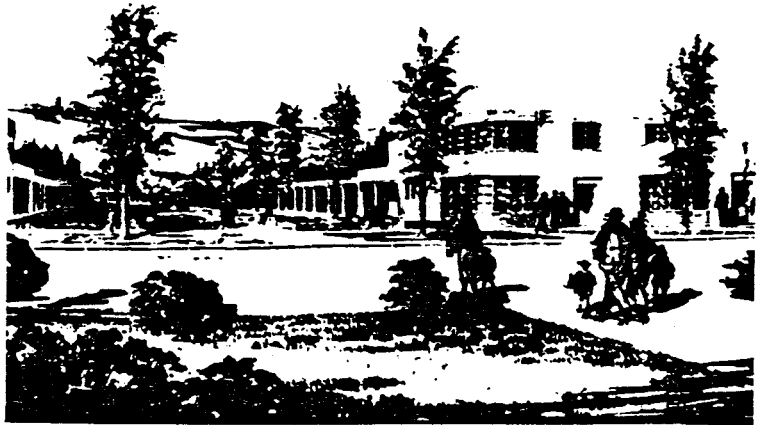
fig. 1,2 "Greenbelt" General View



112—Because of lack of inner block paths and underpasses children must be policed



fig. 1 "Greenbelt" Underpath
fig.2 Traffic Hazard at "war-housing"
project
fig.3 Pedestrian Path in center of
"Superblock"



124—Plan of the shopping center at Greenbelt showing the new food store and theater.

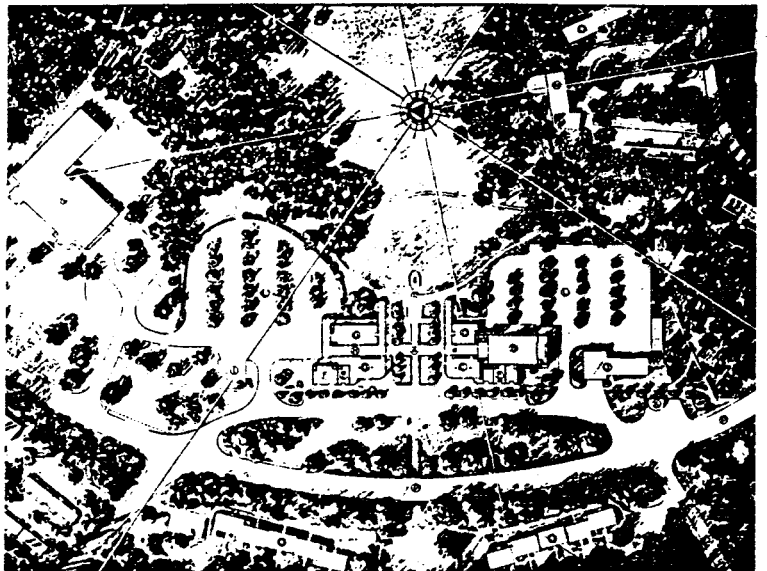


fig. 1-3 "Greenbelt" Commercial Center

PLATE L

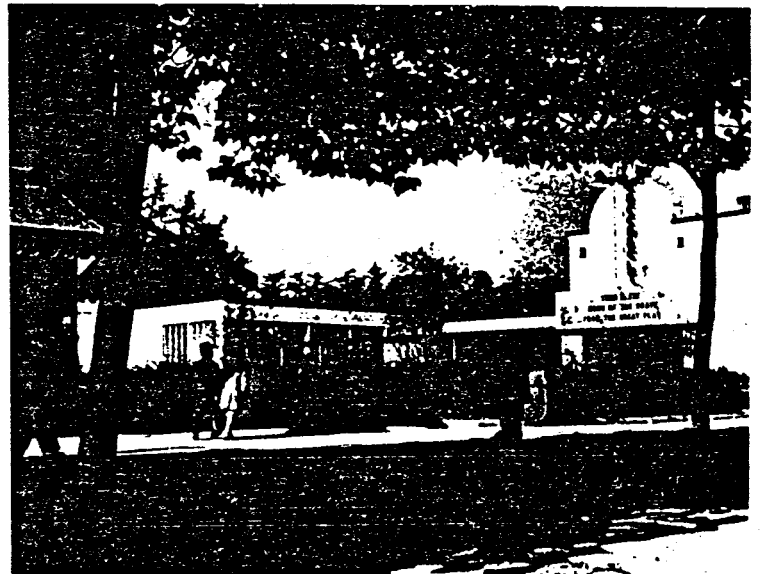


fig. 1-2 "Greenbelt" Commercial Center

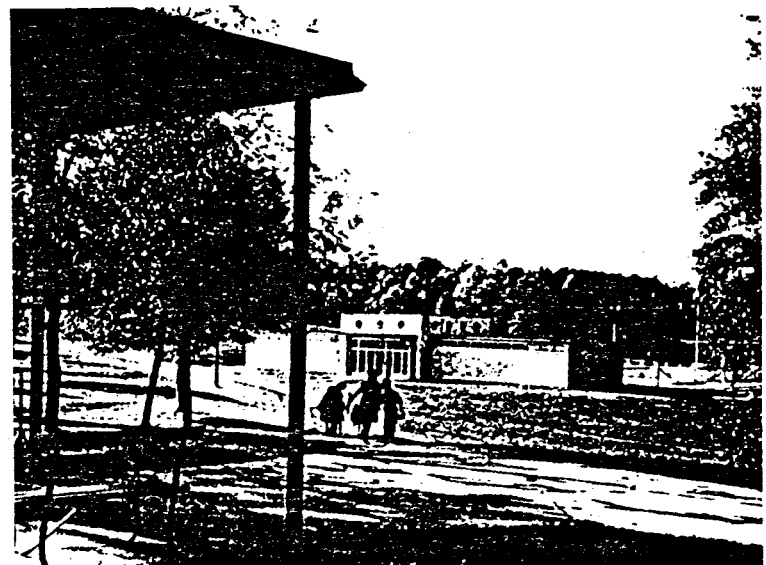
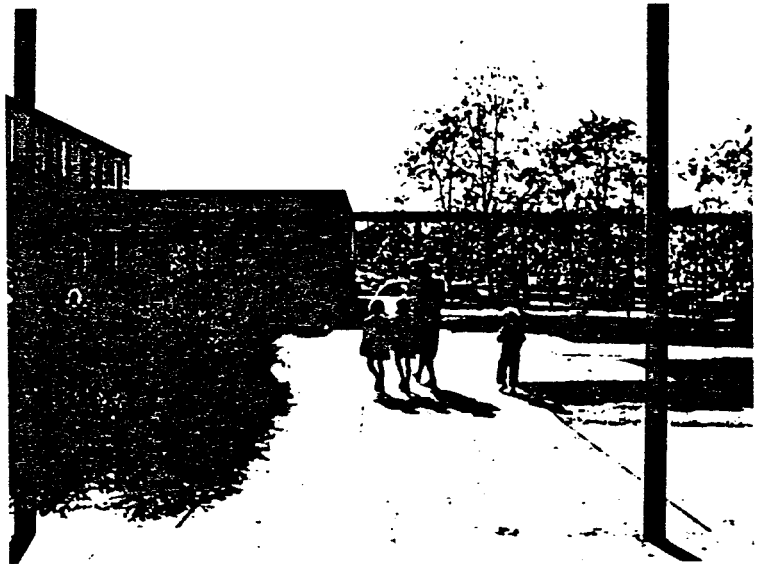
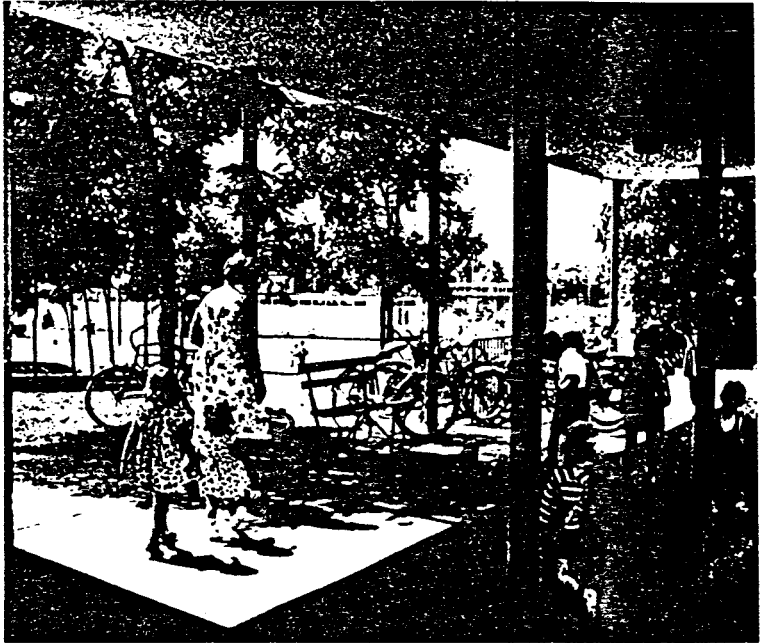


fig. 1-2 "Greenbelt" Commercial Center
fig.3 Path to Recreation Center

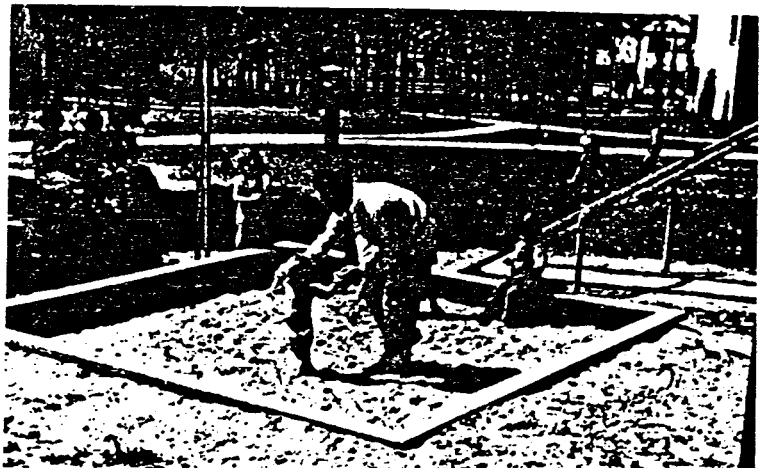


fig. 1-5 "Greenbelt" Leisure Activities

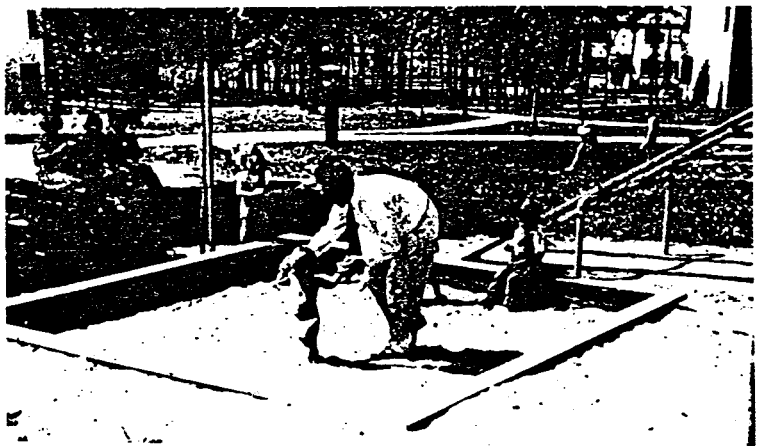
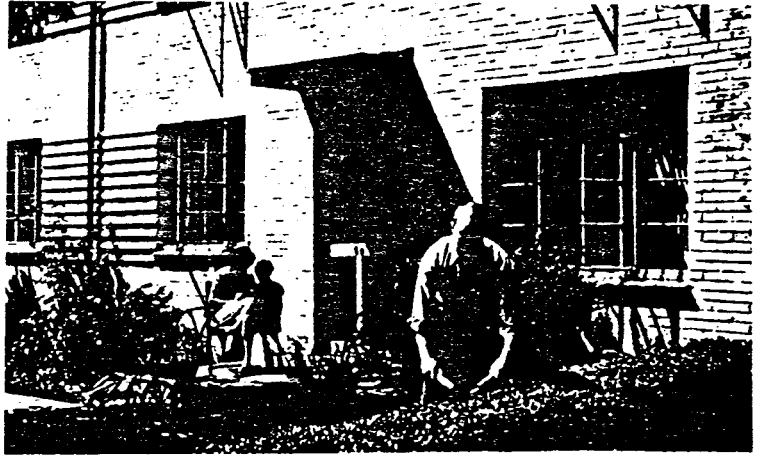


fig. 1-4 "Greenbelt" Private Gardens and Public Park

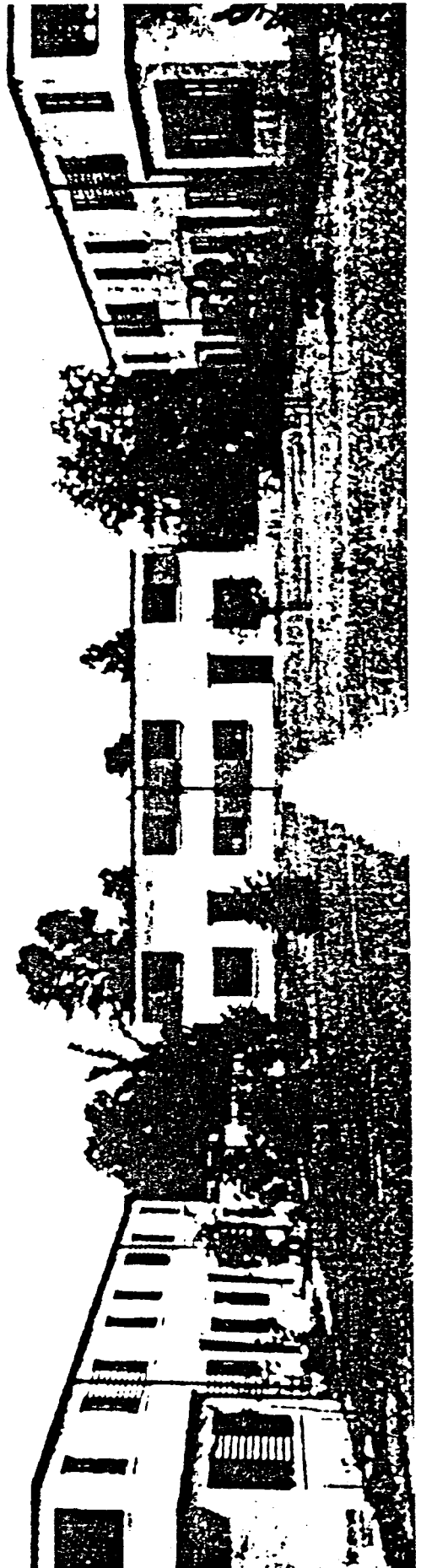


fig. 1 "Greenbelt" View of Front
Yard

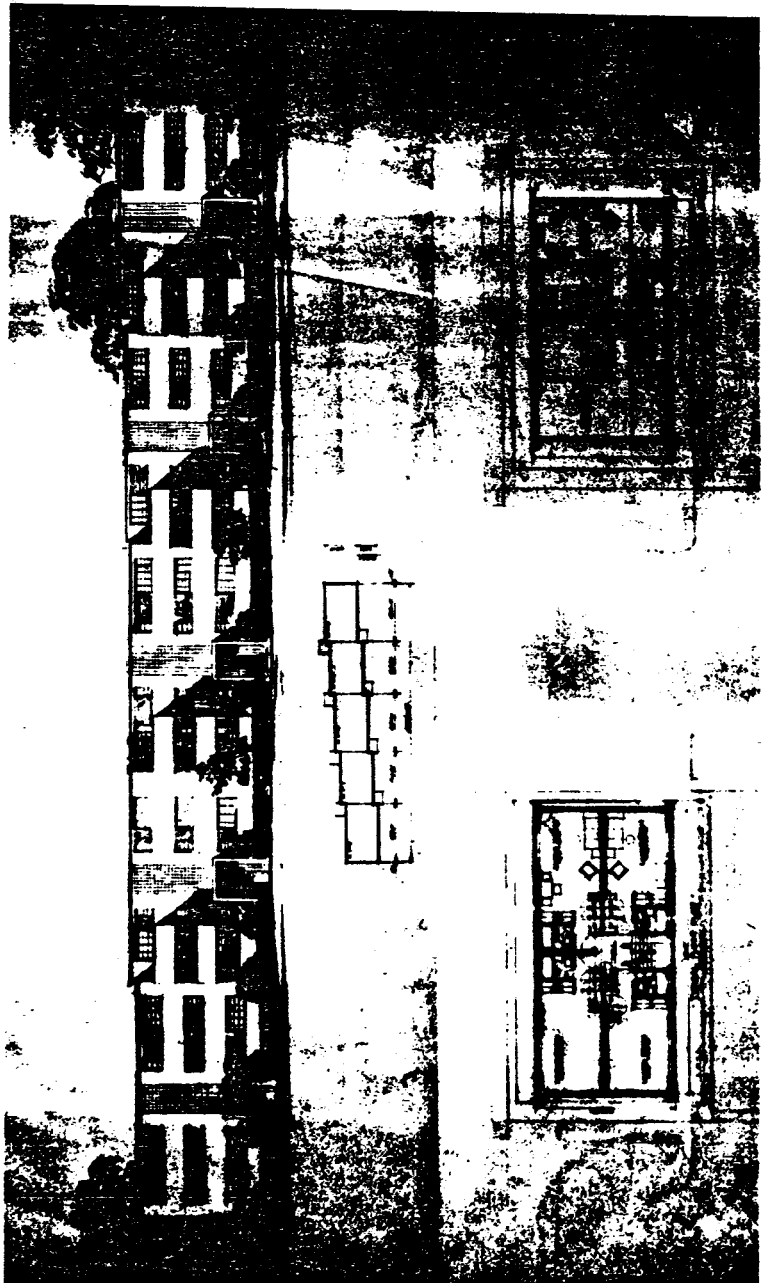


fig. 1 "Greenbelt" Typical
Apartment Building, Elevation and
Plans

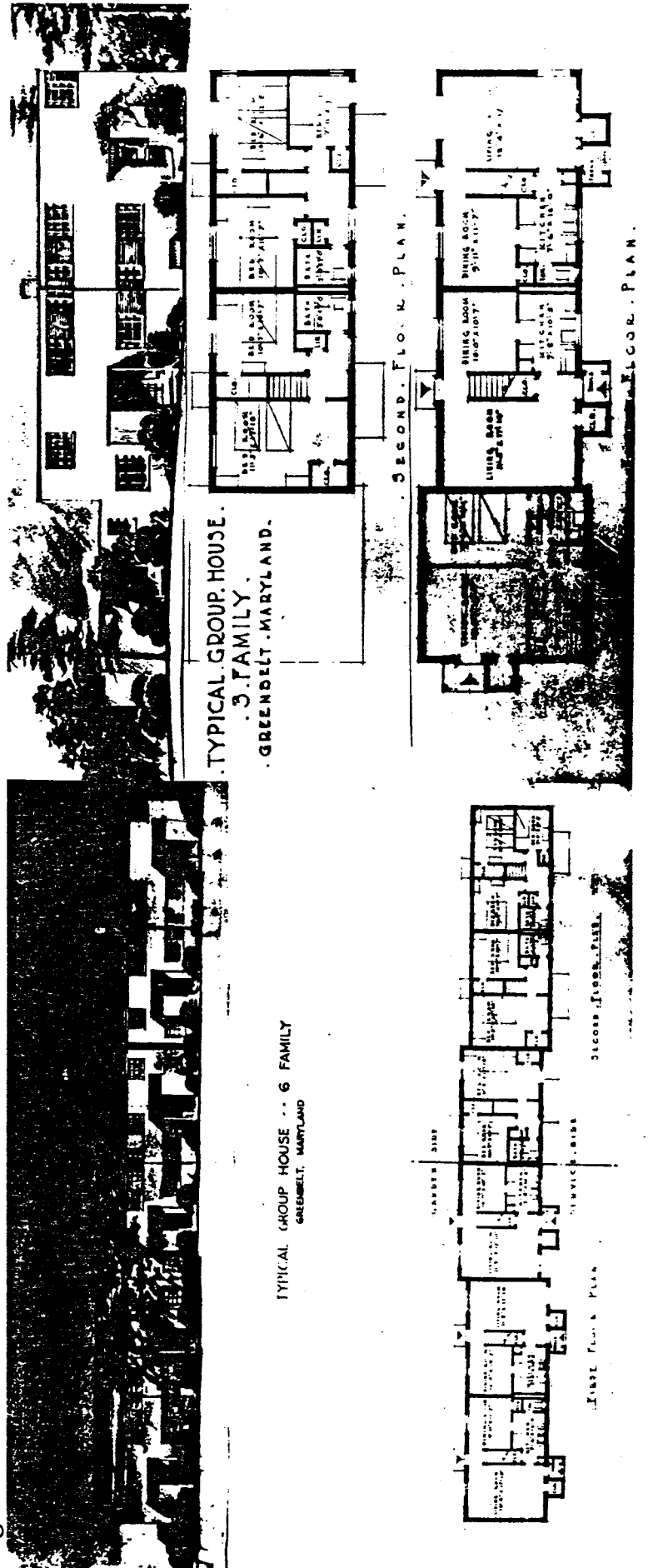


fig. 1-2 "Greenbelt" Typical Group Houses, Elevations and Plans

VII. SAN FELIPE COURTS HOUSTON

**MACKIE & KAMRATH, HOOTON AND WERLIN,
DESIGN COMMITTEE
C.A. JOHNSON, PLANNER**

The San Felipe Courts project represents the most consistent designs of the New Deal period in Texas.

Originally started with funding from the PWA the housing complex was completed as a war-housing project in 1942.

The urban scheme employs parallel row houses with projecting end units. The public space between the units is thus differentiated into front yards with wide openings to the central axis or into service yards with narrow passages. The complex is structured in three parallel bands placing the three story buildings in the center to either side of the access street that divides the plot in half.

The seemingly uniform buildings contain differently sized apartments from 1-bedroom to 4-bedroom units. Even the apartment occupying the upper levels of the three story structures have their own entrance door on the ground level. All units are designed to allow cross-ventilation.

The construction uses reinforced concrete slabs and piers similar to the Mackley Houses in Philadelphia. The walls are masonry with exterior face brick in contrasting brown and buff creating horizontal bands between windows. The projecting canopies over the entrances are made of concrete as well.

The community center is located at the entrance facing the public park stretching along Buffalo Bayou and the Drive. The common facilities housed in the structure bridging across the street include kindergarten and nursery, rental office, gymnasium and maintenance facilities with several work shops.

The current state (1989) is characterized by intentional neglect . Many units are boarded up, only

few apartments are occupied. The high density has been cited as a reason for preparing a partial demolition of the community. The political controversy ,however, blames the high real estate value and the history of the site as a segregated housing project as the motives responsible for its present decay.

Literature:

Architectural Record, vol.91, no.4, April 1942, p.47
ff; no. 5, May 1942, p. 52, 53.

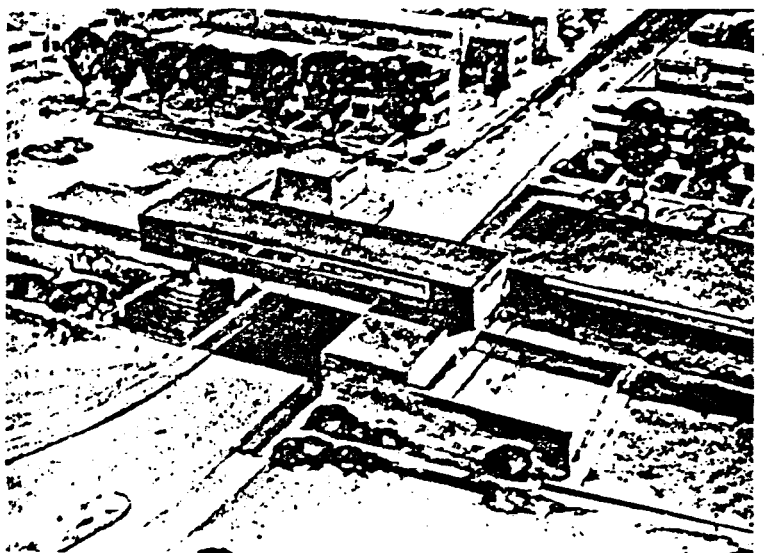
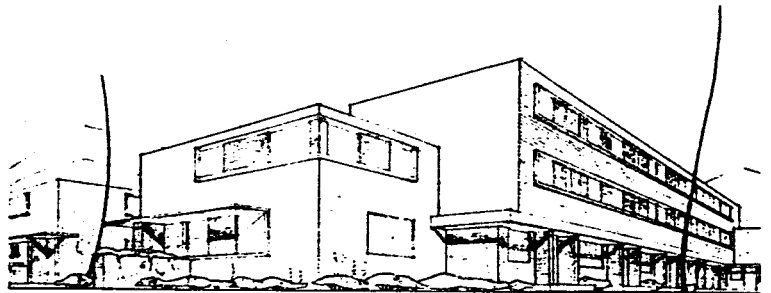
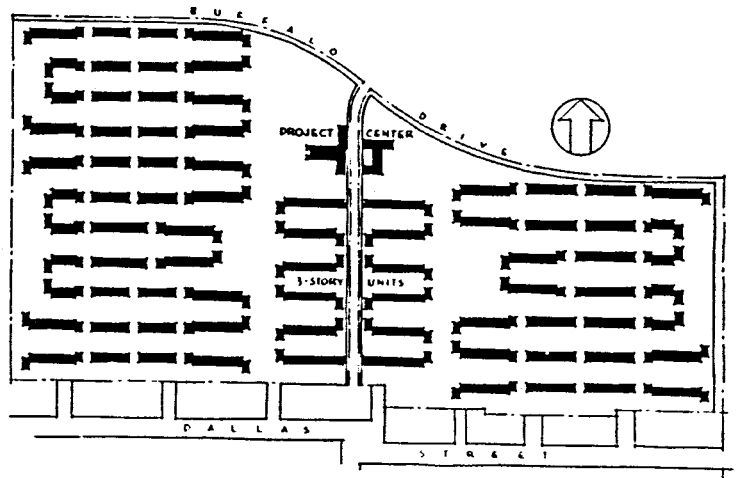


fig. 1 "San Felipe Courts" Site Plan
fig. 2 Perspective View of Corner Unit
fig. 3 Bird's Eye View of Community Center

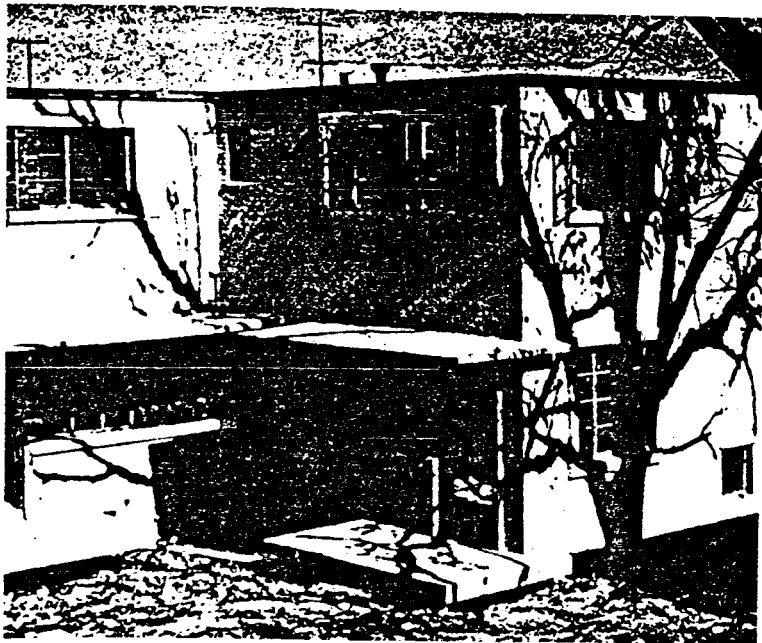
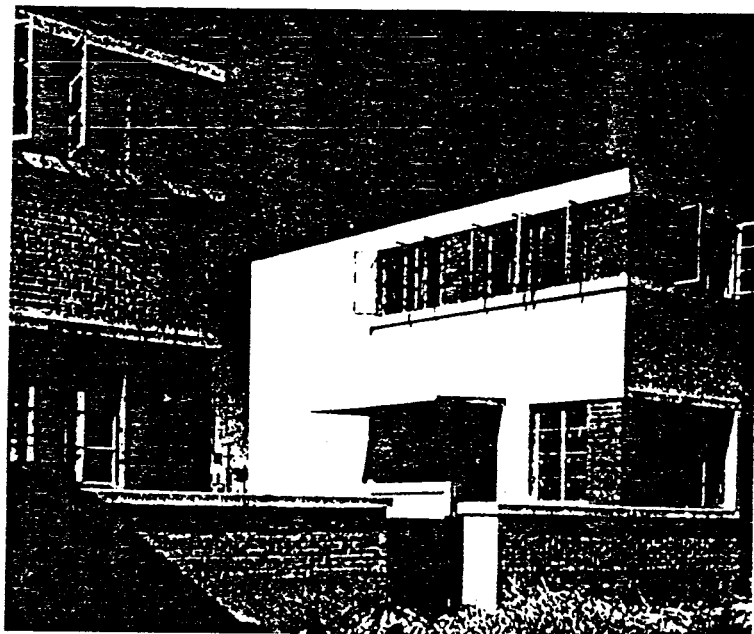
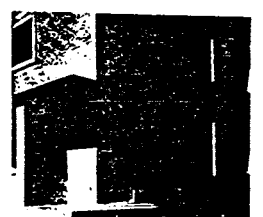
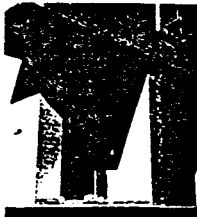
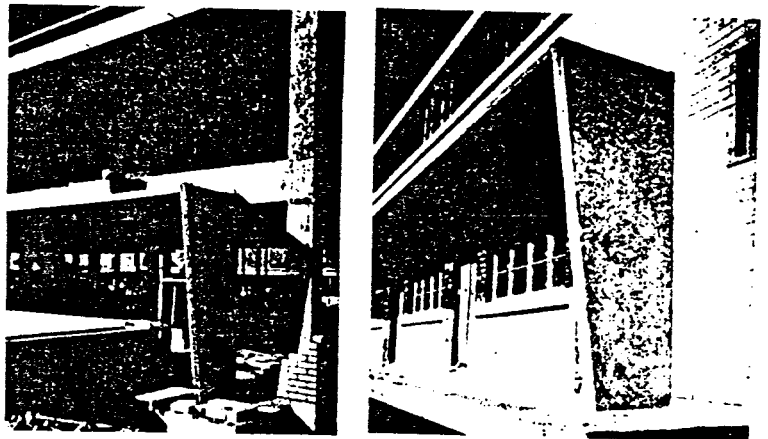


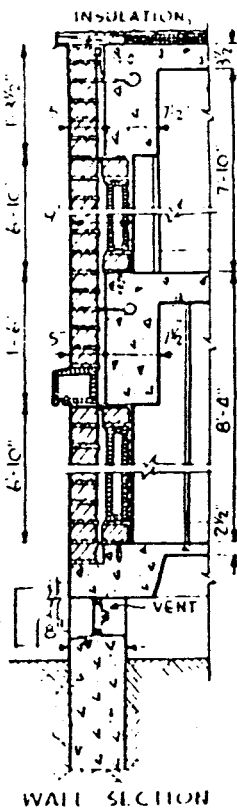
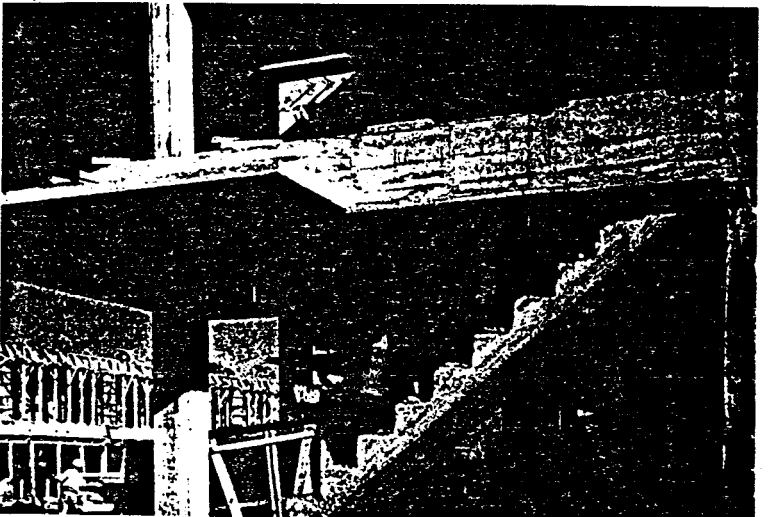
fig. 1-3 "San Felipe Courts" Row Houses



entrances separated by a thin

Opening reinforced by projecting frame

Entrance shielded by concrete canopy



WALL SECTION

fig. 1-6 "San Felipe Courts"
Construction
fig. 7 Wall Section

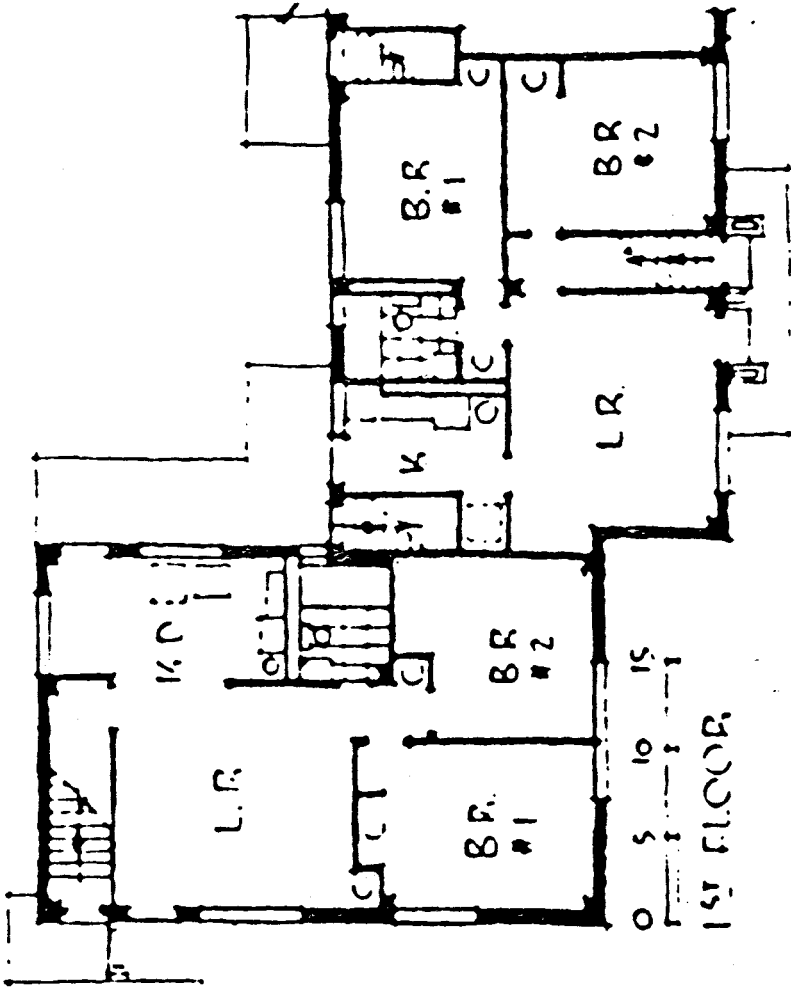


fig. 1 Three Story Building, Ground Plan

Plan

PLATE LXII

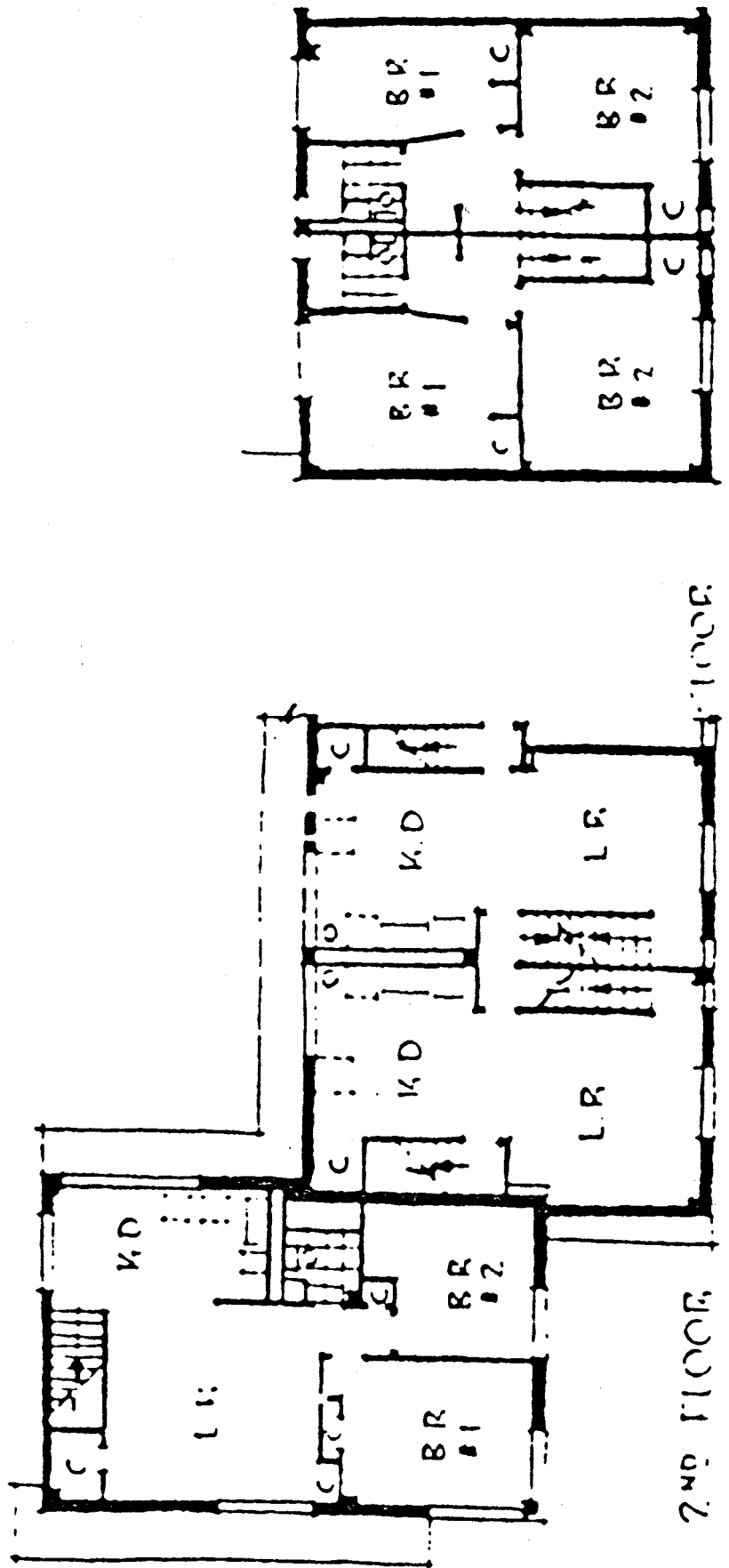


fig. 1,2 Three Story Building, First and Second Floor

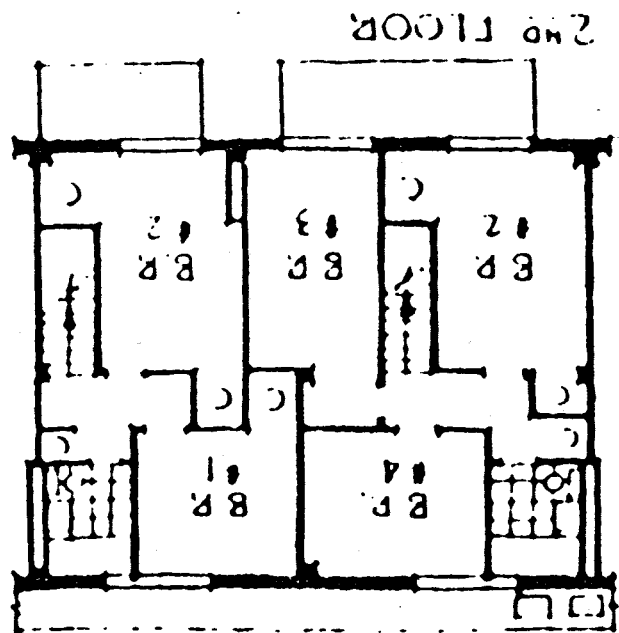
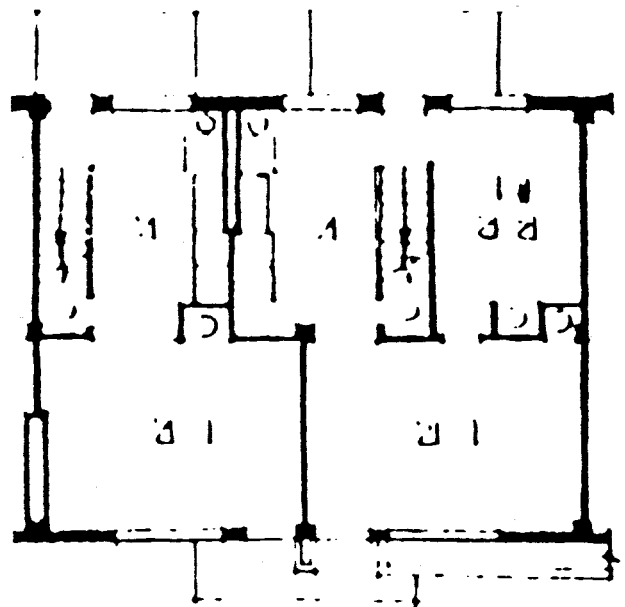


fig. 1,2 TwoStory Building, First and Second Floor

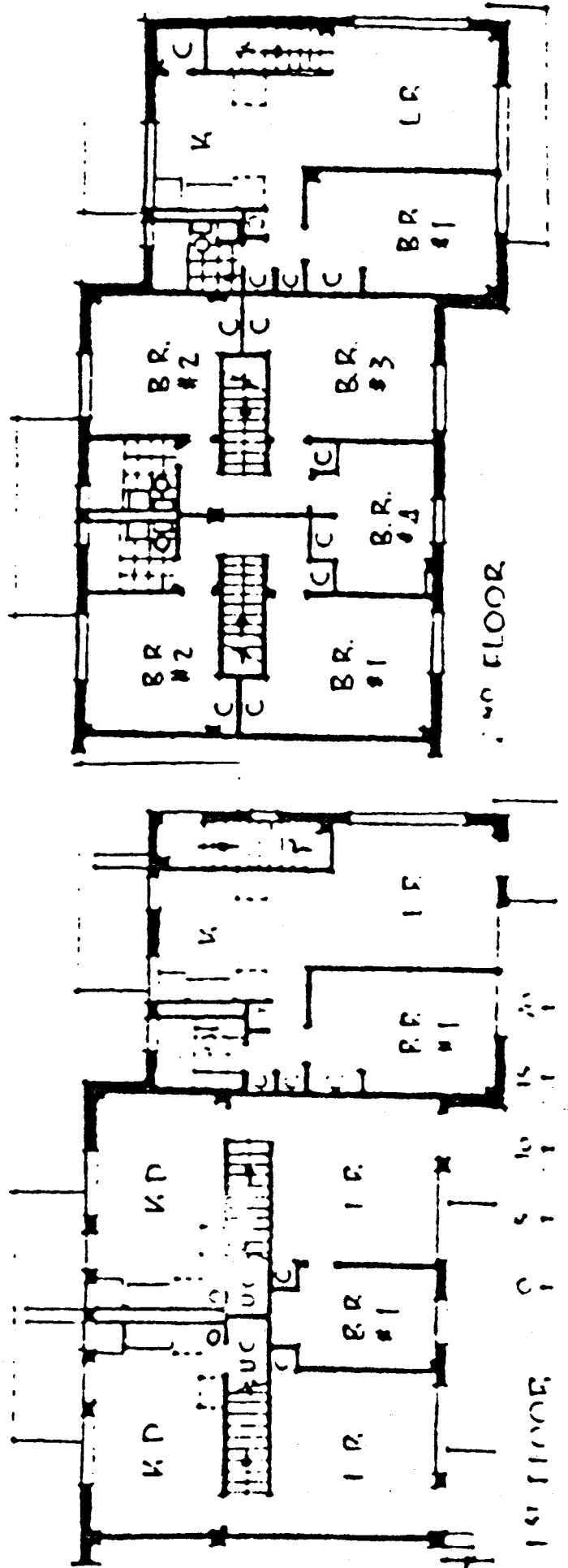


fig. 1,2 TwoStory Building at End of Row, First and Second Floor

VIII. CONCLUSION

The survey in its conclusion challenges the definition of the identity and the classification of the examples of modern housing. The European examples illustrated and discussed derive their final shape and character from the application of methods and objectives available to the architects and planners through a process of observation, abstraction and synthesis. The modern architecture in Europe between 1922 and 1932 did not depend on the emulation of an image like the "Neo-Romaneque" before WWI. Despite the image of the "Concrete Atlantis" as Banham refers to American iconography in his historiography of modern architecture, the aesthetic statement of modern housing is the synthesis of multiple intentions and objectives. This quality of intellectual ingenuity is absent in the examples representing American modern housing. Under the assumption that both subjects were unrelated, this finding would constitute a weakness. However, under consideration of the American origin of fundamental ideas of modern housing in Europe, the finding is a logical reinforcement of the validity of the principles on which the "New Objectivity" has been based. The quality not only of American modern housing needs to be evaluated based on the objectives achieved through the process of building and the resulting aesthetic statement.

The failure to achieve comparable results can have two reasons: the lack of ability or the recognition of different or changing objectives and principles. The abandonment of the Zeilenbau concept even by the more rigid advocates of modern architecture, Kastner and Stonorov, is not fully explainable with the statement provided by C. Bauer: "The long straight carefully oriented parallel rows of identical buildings we inherited from modern housing

practice in pre-Nazi Germany are still usually the cheapest and most strictly *functional* way to lay out a housing project....

But they can be very dreary, even to a sophisticated modernist eye. Also, the maximum sun at all periods of the year for everyone is not an unmitigated blessing in most parts of this country. Other things must be considered: the view, ... grouping of buildings on a more human, less formal scale; separation of service yards from recreation areas.; and the virtue of supplying different types of accommodation, requiring different building types and heights." (1)

The examples discussed vary in their degree of success. The Greenbelt community did not pursue the aim to provide for the needed from the onset.

The restraint of time for planning and a political agenda with contradicting intentions eliminated in general the exploration and application of innovative methods of construction with few exception in the case of some experimental structures. The aesthetics are an adaptation of the iconographic program of modern housing, the level of achievement is considerable but not comparable with European or other American examples. The achievement of Greenbelt in retrospect is constituted primarily by the quality of the large scale planning concept and the quality of the type of community sponsored by the comprehensive proposal. It remains doubtful whether these assets could have been achieved in the U.S. under less favorable conditions than was made possible for a selected demonstration project.

Both, the Mackley Houses and San Felipe Courts are comparable in the use of fire proof construction, the adaptation of a modified court yard concept and the facile employment of modern formal vocabulary. Both projects demonstrate the inventive "packaging" of diverse units within a rigid structural system.

If their contribution is measured on their impact on innovation, they succeed only in singular aspects; if their merits are measured by their contribution to inform the larger culture of housing in the United States through the demonstration of high standards reflecting the spirit of the period, they succeeded.

Notes:

- (1) Bauer, C., Large Scale Housing, in: Architectural Record, vol. 89, 1944, pp.89-105

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