

## FORMAL AFFINITIES OF ARCHITECTURE OF THE “WHITE CITY” IN TEL AVIV

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### Abstract

The aim of this paper is to present the influence of European architectural avant-garde ideas of the second and third decade of the 20th century on urban and architectonic structure of Tel Aviv (Israel). The paper is based on a research in situ as well as on publications discussing trends within the International Style in Europe and Israel. The result of this work is substantial for detailed knowledge about architecture of Tel Aviv city built from foundations under the influence of Bauhaus School of Architecture as well as Le Corbusier's ideas, penetrated by dynamism of expressionism forms. In the thirties, due to the political situation in Europe, the crossroads of architectural trends were situated just there, after many young architects of Jewish descent from all over the continent sought refuge in Palestine. They were educated at different universities and their professional experience differed. The city was used by them also as a testing ground for new solutions aiming at adaptation of International Style to different geographical and climatic situation. This subject has been absent, so to date, in contemporary discussion on Polish Modern Architecture, despite the fact that Polish-born and educated in Poland architects took part – a very important part – in this process.

### Streszczenie

Celem pracy jest przedstawienie wpływu, jaki wywarły na urbanistyczną i architektoniczną formę miasta Tel Awiw (Izrael) awangardowe trendy w europejskiej architekturze trzeciej dekady XX w. Praca oparta jest na badaniach prowadzonych na miejscu oraz na publikacjach omawiających nurty występujące w ramach Stylu Międzynarodowego w Europie i w Izraelu. Wynik pracy jest istotny dla szczegółowej wiedzy o architekturze miasta budowanego od podstaw pod wpływem Szkoły Architektury Bauhaus i idei Le Corbusiera, przenikanych dynamiką architektonicznego ekspresjonizmu. W latach trzydziestych, ze względu na sytuację polityczną Europy, skrzyżowanie nurtów architektury znalazło się właśnie tam, po przybyciu z Europy młodych architektów żydowskiego pochodzenia, szukających schronienia w Palestynie. Wykształceni byli w różnych uczelniach i różnie mieli doświadczenia zawodowe. Tel Awiw był dla nich poligonem doświadczalnym rozwiązań mających na celu adaptację Stylu Międzynarodowego do nowych warunków geograficznych i klimatycznych. Temat ten, jak dotąd jest nieobecny w toczącej się współcześnie dyskusji na temat architektury modernizmu w Polsce, mimo że urodzeni i wykształceni w Polsce architekci brali udział, jeśli nie udział ważny, w tym procesie.

Keywords: Tel Aviv; Modern Movement and International Style; Bauhaus; Expressionism; Jewish architects from European countries; Adaptation to the local conditions; Architects educated in Poland.

## 1. INTRODUCTION

Tel Aviv gained a name of the White City due to its unusual, homogenous architecture based upon the International Style. It is also world's largest urban area built in this style. The same line of aesthetic solutions was continued in the city later in the forties, fifties, sixties and even seventies, only to give way to large scale developments of corporate buildings and hotels. In that time new architectural trends such as brutalism,

deconstructivism, postmodernism did not flourish in Tel Aviv.

Tel Aviv was founded in 1909 as a settlement on the outskirts of the ancient port of Jaffa, which is now the oldest, historical district of the City officially known as Tel Aviv-Jafo. At first a small Sephardic community with a number of Ashkenazi Jews existed among Jafo's Arabs. Sephardic Jews originally lived in the Iberian Peninsula, African and Middle Eastern (Moslem) countries, while Ashkenazi Jews came from European

(Christian) countries. Throughout the centuries the two groups developed different cultures which met in the 20<sup>th</sup> century in Palestine, and later, since 1948 in Israel.

Zionism, a new ideology, developed among European Jews at the break of the 20<sup>th</sup> century, spread across Europe causing, in the late twentieth century first waves of migration from Eastern Europe to the historical land. Sandy sea shore dunes adjoining Jaffa were difficult for settling in. The beginning of modern Tel Aviv was initiated by construction of New Tzedeck, which between 1887-1896 became a first settlement outside Jaffa built by Ashkenazi immigrants. "Newe Tzedeck" is characterized by simple, two-storey buildings constructed of local sandstone.

Early architecture of Tel Aviv-to-be consisted largely of one- or two-storey houses: from simple "cubes" to a variety of styles popular in those days in European architecture.

Second wave of immigrants in the first years of the 20<sup>th</sup> century resulted in decision upon a complex plan for a new suburb. Jewish community has bought 5 hectares of sand dunes to the north of Jaffa planning to organize a comfortable, healthy and modern place for living. The settlers were Zionists, adherents of socialist ideology, basically from Poland and Russia. In 1909, sixty six families bought and parceled the land, giving names to first delimited streets and building first houses of the city that was named Tel Aviv one year later. However, at the same time, in Europe a Modern Movement trend germinated and gradually gained supporters among artists and young architects. In the thirties, particularly when the Nazis were gaining power in Germany, Jewish citizens fled the country and gradually whole Europe. Many of them settled in Palestine. At that time the land was under British Mandate, a result of the Paris Peace Conference in 1919, with assumption that Jewish state will be established there.

In the following years population of Tel Aviv rose from 550 residents in 1909 to 40 000 in 1926 and 150 000 in 1937. [1] This situation was generated by the course of events that took place in Europe. Inevitable urban expansion created a challenge for architects. Many of them, Jews by birth, educated in the Bauhaus School of Architecture and in other leading European architectonic schools arrived in Palestine and established their practices there, bringing the ideas of International Style with them.

Tel Aviv's city centre urban layout was delimited in 1925.

Today it is the only full realization of the idea of a Garden City conceived by *Patrick Geddes*, who was commissioned to prepare the plan of the city. He took advantage of the city's topographic situation planning the grid of streets with a goal to employ the sea breeze to ventilate the housing area. [1]



**Figure 1.**  
Sir Patrick Geddes plan for the new city of Tel Aviv 1925,  
source: [www.telavivarchitecture.com/Tours.html](http://www.telavivarchitecture.com/Tours.html)

In Tel Aviv the ideology, design and texture of the International Style buildings were carried out in a manner never repeated elsewhere. *Geddes's* layout envisaged houses built on small, individual, private plots, which, as a matter of fact, contradicted socialist ideas of Palestinian leaders.

This problem was solved by building multi flat houses with common areas for the tenants. On the other hand, social ideas were expressed in an exemplary way in cooperative settlements designed within the city for groups of workers; Bauhaus "siedlungs" were their predecessors. [2]

## 2. INFLUENCES

In Tel Aviv the International style buildings consisted mainly of contained structures, due to *Geddes'* plan, and were exposed against open space on sandy plots (their gardens-to-be). Therefore, the volume of a building and its all facades became a subject of formal decisions. Although Tel Aviv architects adopted visual aspects of the International Style, a large variety of local solutions appeared in a relatively short time. Hot climate, accessible building materials, need for sensible, quick and cheap technologies were imprinted in the city's landscape. Tel Aviv's architecture common denominator can be described as: white walls and protruding long balconies with solid balustrades contrasted with shaded horizontal strips of recessed walls, horizontal windows, concrete structures of roof pergolas, recessed ground floor, pillars, greenery overflowing small front gardens. Curved corners of the buildings and balconies became a trade mark for the corner locations. A closer look at the architecture that came into being in the thirties shows its straight affinities with several European blazing trail circles of that period.

What is even more interesting, the most innovative creators among the architects of that period were the Jews that arrived from Poland, Ukraine, Lithuania, Belorussia, Czech Republic, Slovakia and Russia. They were among Bauhaus graduates, apprentices of *Le Corbusier's*, *Mendelsohn's* and *Bruno Taut's* studios, students of Belgian, Viennese, Rome and Milan schools. Some of them obtained education at Krakow, Warsaw and Lvov universities, where the ideas leading to the Athens' Charter were well known. Graduates of Kharkov Donieck and Sankt Petersburg absorbed Russian Constructivism.

Personal connections that occurred in this melting pot of European tendencies of the period are still being studied, due to lack of evidence from the first period of Tel Aviv development.[3] Nevertheless, most of European cities and schools promoting the International Style in those days, contributed to functional, formal and structural achievements of the city's architecture.

Bauhaus recognizable features are: functional plan,

cubic simple forms, symmetry contradicted by asymmetry, flat, walls, windows regularly placed or blocked in horizontal strips, big glazed surfaces, sharp cut balconies and accentuated vertical staircases, "organic detail" – a result of natural texture of the buildings and changes provided by the sun and artificial light. The mass of the building is created by closed and open volumes. These features were strongly ingrained into Tel Aviv's architecture, as in the 1930s seventeen architects, former Bauhaus students contributed to the city's townscape. [4]

*Le Corbusier's* rules of modern architecture comply with the Bauhaus ideas, widening the scope of forms by an open plan, functional roof, which at the same time was a tradition of vernacular architecture in hot-climate Mediterranean cultures. Other characteristic features included strips of windows on flat walls, horizontal balconies, curves interlacing with straight lines, pillars that resulted in risen volume of the house.

Constructivist ideas brought by those architects who had an opportunity to study or practice in the Soviet Union introduced domination of the structure and encouraged dynamic silhouettes and genuine, technological details of some of Tel Aviv's houses. [5] On the other hand, strong Mendelsohnian influence was manifested in dynamic rounded corners of the buildings, curved balconies, overhanging roof pergolas.

Technically, the buildings were either constructed in traditional way, with silica, concrete or clay bricks, or these materials filled reinforced concrete skeletons. Deficiency of clay resources resulted in the wide use of concrete for pre-fab elements or building works carried out in situ. External cover of sandstone or limestone slabs was preferred by the city authorities and most of the architects. The other, cheaper version of outside finish was a whitewashed plaster sometimes intriguingly textured. Steel and iron were used economically, as they had to be imported. Colour was used very sparingly. [6]

## 3. ADAPTATION TO LOCAL CONDITIONS

The climate of Tel Aviv, which is diametrically different from the countries of arrival of the settlers, extorted basic changes to designs of architects. Despite that, forms of the buildings were derived from Europe's avant-garde trends.

One of the International Style signs of recognition was a large horizontal window. In a hot climate of Palestine glazed planes were changed into narrow,

long, horizontal strips. They perforated withdrawn external walls sheltered by balconies. Their solid, white balustrades divided volumes of the buildings horizontally. The balconies provided open space for the flats and limited their insolation. Flat roofs were used by all residents and originally did not feature Corbusean gardens, but served as drying spaces and evening events venue. Houses lifted on pillars provided common area for the tenants, larger front gardens, as well as better ventilation within the streets.

Carefully proportioned volumes of the buildings with accentuated staircases, balconies, curves and texture of white stone or whitewashed plaster were the tools for achieving “organic ornament”. Sun-lit and shaded parts of elevations enhanced forms and changed their shapes throughout a day.

The uniform look of Tel Aviv centre, established during the thirties was not only a result of formal, functional and structural trend among young architects educated in European schools of architecture. Municipal authorities as well as the architects were convinced that the ideology of the new country and ideology of the International Style, aim of at the same target. One of its strongest adherents within the city's decision-making authorities was *Yakow Ben-Sirra (Shifmann)*, the then Town Engineer.[4] This has also contributed to the contemporary position of Tel Aviv as the world's biggest showpiece of the International Style architecture.

#### 4. ARCHITECTS FROM EUROPE

External form of the Modern Movement buildings in Tel Aviv has been influenced also by a trend derived from the German Expressionism. *Erich Mendelsohn* (1887-1953), German citizen of Jewish descent born in Olsztyn, was the most recognized architect of that time. His works included examples of expressionist architecture such as Einstein Observatory (1920-21) and Schöcken Department Stores (1925-30). [5] The forms and details of these buildings became widely exploited in the housing and municipal architecture of Tel Aviv, attributing to its dynamic, ship-like forms. However, the only *Mendelsohn's* building commissioned for the city was the Max Pine School, the simplest, and most cubic building among his projects.

Closer inspection of the biographies of Tel Aviv's most recognized architects of the thirties shows many similarities. Their early years and education took place in Mid- and East European countries: in Poland, Lithuania, Ukraine, Belorussia or Russia. After emigration to Palestine or before that, they



Figure 2.  
Erich Mendelsohn, Max Pine School for Boys, 15 Haroshet Str., Tel Aviv, 1935-36. View from the S/W Exposed staircase leads to the roof which was planned as an additional yard for the school (never realized)



Figure 3.  
Erich Mendelsohn, Max Pine School for Boys, 15 Haroshet Str., Tel Aviv, 1935-36. View from the S/E. Building represents unusually simple and restrained trend, probably because of small funds available and modest location within industrial zone of the city



Figure 4.  
Erich Mendelsohn, Max Pine School for Boys, 15 Haroshet Str., Tel Aviv, 1935-36. Detail of the main entrance



**Figure 5.**  
Arieh Sharon, Me'onot Ovdim block of flats, built in Tel Aviv in the 1930 s., expressed social idea of togetherness in the common space, opposed to the private plots of Geddes' plan.  
Source: en.wikipedia.org/wiki/Arieh\_Sharon



**Figure 6.**  
Arieh Sharon; Chan (Han) Cinema at Dizengoff Square, Tel Aviv, 1950. The building follows the round form of a square

pursued their education in European leading schools of architecture. [6-8]

*Arieh Sharon* (1900-1980) born as *Ludwig Kurzmann* in Jaroslaw, Poland, migrated to Israel in 1920 and



**Figure 7.**  
Shlomo Bernstein, 95 Ahad Ha'am Str., Efroni House, Tel Aviv, 1934; the use of pre-fab perforated blocks was repeated later in many houses

worked in kibbutz for six years. In 1926 he went to Germany to study architecture where he became a student of Bauhaus in Dessau. After his return to Palestine he opened practice in Tel Aviv in 1932.

*Shlomo Bernstein* (1907-1969), was born in Vilnius, Lithuania and after emigration to Palestine in 1924, studied architecture in Haifa for three years, followed by two years of studies in Bauhaus where he graduated from *Mies van der Rohe's* class. For some time he worked in *Le Corbusier's* studio. In 1933 he returned to Tel Aviv and started his own business. He was appointed as the City Architect between 1949-69.

*Joseph Neufeld* was born in 1898 in Monastarjiska, Galizia, Poland. He emigrated to Palestine in 1920. During 1922-26 he studied architecture in the Academy of Arts in Vienna, and later in the School of Architecture in Rome. He worked with *Erich Mendelsohn* for over three years, then for two years in Moscow with *Bruno Taut*. In 1932 he returned to Palestine and started his own business in Tel Aviv. After war he emigrated to the USA where he worked as an architect and lectured.

*Shmul Mistechkin* was born in 1908 in Ukraine. In

1923 he came to Palestine. Between 1931-33 he studied architecture in Bauhaus. In 1934 he returned to Israel and first started to work in *Joseph Neufeld's* office, by 1937 he established his own business.

These four leading architects educated in Bauhaus were among first ones who continued achievements of the International Style adapting them to the social policies, economy and climate of the country.

*Le Corbusier's* influence can be traced in works of *Ze'ew Rechter* and *Zaki Chelouche* as well as in works of Shlomo Bernstein educated in Paris.

*Ze'ew Rechter* was born in Kovlovka in Ukraine (unknown date of birth – died in 1960). He studied architecture in Nikolayev and came to Palestine in 1919. In 1926 he went to Rome to study Engineering. After short stay in Israel he went to Paris in 1929, to accomplish his studies in the National School of Bridges and Roads, graduating in 1930. He returned to Israel in 1932 and started his own business in Tel-Aviv. After a two-year struggle with Tel-Aviv municipality, Rechter was first one to design and build a house standing on pillars

*Zaki Chelouche* was born in 1894 in Jaffa. In 1907 he moved with his family to Paris where he studied in Ecole Speciale des Travaux Publics and after apprenticeship in *Le Corbusier's* Studio, worked as an architect in Paris. In 1927 he returned to Palestine. Apart from his architectural practice, he participated in various administrative and professional bodies and organizations in post-war Israel.

In every street and square of the White City one can find clear affinities with Bauhaus ideas, Corbusean theory, Expressionism and Constructivism. As the time



**Figure 8.**  
Ze'ew Richter, the Engel House, 84 Rothchild Blvd. The first house in Tel Aviv on the pilotis, 1933, Photo: Itzhak Kalter, [www.flickr.com/photos/isotype75/393452084/](http://www.flickr.com/photos/isotype75/393452084/)



**Figure 9.**  
Ze'ew Richter, the Engel House, 84 Rothchild Blvd. Tel Aviv's first house on pilotis before renovation



**Figure 10.**  
Zaki Chelouche, The Braun House, 1933, Ehad-ha'am Str./Mazeh Str.  
Source: [www.telaviv-fever.com/index.php/architecture/](http://www.telaviv-fever.com/index.php/architecture/)

passed by the forms became more intricate, volumes contrasted, buildings bold. Some rules however, following traditional forms of urban structures were adapted in modernist/expressionist way. Corner towers, copulas and elements accentuating urban space were replaced by their modern substitutes. Junctions of streets and other structural elements were emphasized by curved lines of the corner houses, higher



**Figure 11.**  
Joseph Berlin, 1 Hess Str., 1933; expressionist tone in architecture of Tel Aviv was revealed in corner buildings



**Figure 12.**  
Lucjan Korngold, block of flats at 65 Shenkin Str., 1933-35, outstanding quality of form and detail



**Figure 13.**  
Lucjan Korngold, 65 Shenkin Str. This building is now considered one of the best examples of Tel Aviv architecture of the thirties

buildings, glazed staircases and overhung roofs underlining the focal points of urban composition.

The analysis of buildings attribution within the White City leads to conclusion that throughout the thirties there was a bond between Polish schools of architecture and architecture of Tel Aviv.

*Lucjan Korngold* was a graduate of Warsaw Faculty of

Architecture, where ideas of International Style were popular with the students and graduates. He ran a private practice in Warsaw, specializing in housing and administration buildings. Between 1933 and 1935 he lived in Palestine and in Tel Aviv he designed one of its outstanding and trendsetting houses at 65 Shenkin Str. It is constructed with reinforced concrete skeleton, thus giving big freedom for internal arrangement of space. Details of this house are interesting and innovative: white stucco covering the walls has an addition of multi-coloured pebbles, round "windows" enhance ship connotations of its form, walls and solid balustrades of balconies are "ornamented" by dark, round, protruding "dots" of outlets for rain water; the detail conceived by an architect well aware damp patches and water stains danger. In 1935 *Korngold* came back to Warsaw and after dramatic escape from Europe at the outbreak of war, he started once again professional career in Sao Paulo (Brasil) and became one of leading post-war architects there.

Two more Polish architects of Jewish descent educated at Polish universities contributed to the Inter-

national Style adapting it to the Palestinian reality.

*Jacob Pinkerfield* was born in 1897 in Przemyśl, Poland in a Polonized Jewish family. His father was an architect there, and Jacob was educated in Lvov and Vienna, where he was a student of architecture in the Technische Hochschule. He joined the Zionist movement and left for Palestine when he was conscripted to the Austrian army. Apart from his extensive work as a designer he was the first architect studying the diversities of Jewish architecture in different countries, particularly synagogues and cemeteries, and worked in Department of Antiquities.

*Dov Kutchinsky* was born in 1883 in Krakow, Poland, and in 1920 he graduated from the Faculty of Architecture there. In the same year he emigrated to Palestine and set up a company with his brother *Ze'ev Kutchinsky* in Tel Aviv. Some of their buildings can be seen in the streets of the White City.

There were many others, who pursued architectonic education either in Poland or in other leading architectural schools. Further research, will probably uncover new links between European International Style of the thirties, and its Polish and Tel Aviv's incarnations. Waves of emigration from Poland between the two World Wars seem to confirm such possibility. However, presented facts prove that the discussion on Polish Modernism is not complete without the Palestinian-Israeli episode.

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