

## Concrete

According to The Hebrew Encyclopedia, concrete is “the most important building material, the only one that may be produced entirely of the land’s crude resources”. A document from 1951 of the Research and Statistics Department in the National Planning Office states that:

All of our considerations need to derive from the fact – established also in many other states – that cement is the most important of materials for building purposes. For us it is certainly important, seeing as the raw material is available to no end in our homeland. The accessibility of the material, being found in various different areas, is of great importance both geographically and transportation-wise. A prominent expert who visited here upon being invited by our government, accurately expressed our fortunate condition in this field: “Your entire land is one big cement factory.”

Although the use of cement was popular during the pre-state era of Israel, it only gained status as the Israeli material following Independence. Its components – lime, aggregates and gravel – were identified as “nature’s great treasures available for use”. The low technology necessary for its production and preparation on site was a culture in formation whose highest architectural and constructional aspirations were basic.

Were the state of affairs in the first years of statehood indeed as fortunate as may be inferred from the official document of the Planning Office? Contrary to the impression of the expert, the entire land was not a factory for cement – but across the land there were

functioning factory of cement: “Nesher – Portland Cement Factories of established in Haifa, and in 1953, in Ramleh). With the arrival of the large immigration the Nesher factories doubled their production capacity (from 241 thousand tons in 1950 to 482 thousand tons in 1951), but still did not manage to meet the demands of the civil building boom. In spite of the severe shortage in foreign currency during the Modest GB rationing, it was necessary to import more than 200 thousand tons of cement between the years 1950-1952. A “cement regime” developed in Israel, defining national (civilian versus housing) and sectorial (labor unions versus municipal bodies) priorities, and it led to a black market of cement. The scarcity of cement was placed on the government’s high urgency. The government’s meeting of the 06/12/1950, for instance, discussed the question of how to allocate cement and to determine priorities. The following was the speech of Dov Yosef, Minister of Transportation and Supply:

To say that a rationing of cement must be conducted but not to deal with it by prioritising, is to contradict oneself. When the subject is the rationing of rice and of sugar, it is meant that each man in Israel is to receive a portion, and there is no question of priority. However, distributing and rationing cement – what does that mean? Not every man is in need of cement. Is it intended that each and every man in Israel is to receive a kilo of cement? [...] The rationing of cement means to determine priorities from amongst those requesting cement. There exists no other way. Mr. Shapiro [Minister of the Interior and of Immigration] carries the burden of conviction that someone has more cement than another. Therefore, a system of prioritizing must be determined.

Pinkas Lubienker [Lavon], Minister of Agriculture, added:

In the field of building, rationing is a function of prioritizing. Without this foundation of priority, rationing is certainly not justified. [...] There are various contractors, and one has sources for raw materials. Why would he need to share them with other contractors? When is this justified? Should we expropriate the goods from their manufacturer and say that there is a general interest of the State in relation to the matters that the State considers as first and foremost, and in its favor imposes the distribution of cement and the rationing not only of cement, but also of other building materials. If we should deter from doing so, there results nothing but ordinary competition between contractors.

In addition to the quantitative difficulties in the production of raw cement and its supply during the first crisis period, in question was also the quality and adaptability to local conditions of concrete (the liquid mix to be cast). During the 50s, the "Israeli Material" underwent many experiments, in which it was asked to prove its native-ness. This authorization was finally received from the "Building Research Station" at the Technion in 1963 performed a comprehensive study of "the concrete casting problems in Israel's zones". This study tested the recommendations of the American Cement Institute in relation to the climactic conditions in Israel. The following were its conclusions:

In light of the above results, concerning both the strength and the plasticity of concrete, and the occurrence of plastic fracturing [fractures appearing before the cement is entirely dry], and even the acceleration of bonding, there is no justification for the restriction of the casting of concrete in the shade or in the evening each time air temperature surpasses 32 degrees Celsius, as is demanded by the ACI brief. If we were to follow this brief in Israel, we would have to abstain from ordinary casting during the day almost entirely during the summer in the southern half of Israel, and sometimes even in the northern half.

According to the study, therefore, the warm Israeli climate does not pose a problem for concrete castings, and in some cases is even an advantage. It was later discovered that humidity, however, does not benefit. Architect Abraham Yaski, clarifies the problem with the concrete buildings that were built on the coastal plain absorbed humidity, and the reinforcements inflated and exploded the concrete after several years. This did not happen in the desert town of Ber-Sheva. The dryness preserved the concrete in good condition.”

Natural resources and local means of production made concrete construction the standard. However, it was international disciplinary developments following the Six-Day War that allowed for the climatization of Concrete Architecture as distinctive Israeli architecture. These developments will be elaborated in the chapter **Brutalism**. Here we will make a short clarification: Brutalism is a provocative trope, which became a discursive strategy in the mid-20th Century architecture. Brutalism reached Israel in its most reductive and literal sense. It was given the general title for Exposed Concrete Architecture and the rhetorics of material and construction sincerity accompanying it. Architect Aba Elhanani, the leading translator of *Zeitgeist* into Hebrew, wrote: “This sincerity instructing us to limit the use of plaster in order to use natural building materials, to accentuate the construction so that it will be visible and honest – to highlight expansion, joints and even scaffolding holes – this sincerity is without a doubt a value in architecture and in art in general.” Wearing the hat of an architect, Elhanani committed, like most of his colleagues, to obey the new decree of sincerity. Wearing the hat of the critic, Elhanani, was kept a distance and sprayed a little venom: “Today we are building in bricks and stone – the new material is concrete and steel. Modism, rhyming with modernism, eats up every good lot and woe be to the one who attempts to rise against the mode

For Elhanani, of the middle generation (between the émigré architects of the 30s and architects of the 50s), exposed concrete is an arbitrary and self-reflexive trend; for those of the young generation, concrete is authenticity itself, molded in his own self image:

Within the general stream of International Architecture, here there sprouted a new generation, Israeli, Tzabar, not intellectual, very physical, linked to Danziger, to Cana'an-ism, to the roots of this place – Zionist, National. We wanted to be real. The International Style was not real. For us, concrete was the Israeli material. Concrete gave a sense of stability: once you implant it in place, nobody would move it from there. The white pilotis you do “phoo!” and blow them away. Exposed concrete is the exposed truth of the material. White is the spirituality of the Modernist Idea. It is like a White Dress Shirt. Concrete is the flesh of the building.

So here then is the operation of the concrete-mixer: the aggregates Cana'an-National, bodily, stable, not spiritual, Danziger (and in fact every trait or quality of “Tzabar”: direct, practical, instinctual, sensual, rough, coarse, scorched), join the symbols of personal and communal personifications and harden at once as a local truth of locality.

In the concrete fashion, derivative as it was, are concealed the seeds of local and fundamentalism, which were to blast in proportion to the growth of cultural patriotism: later, with the territorial expansion of post-67 and the political turn-about of the late stone masonry come to signify claims for authenticity and rootedness. For the first time of Israelis, stone was but an external codex inherited from indigenous Arab and Levantine traditions). The first signs of the patriotic domestication of concrete may be seen in the arguments made by the jury of the prestigious Rokach Prize for Architecture, who awarded it to the El-Al Building in Tel-Aviv, designed by the Architecture Office Kar

Karmi (this is the last major project of Karmi Senior, one of the prominent representatives of the immigrant Bauhaus generation and the first major project of Karmi Junior):

As in the rest of the world, here too we have had an increase of office buildings in the last decade. These high buildings are taking over a substantial part of the building in the centers of cities, and may, in the future determine no less than the entire face of Tel-Aviv. And thus arises the question: Will we follow the path of mere technological solutions and fill our streets with glass boxes, lacking in expression and almost identical – or will we begin our search for the enrichment of architectural identity and our urban landscape?

In this respect, the El-Al Building plays the part of a highly important pioneer in this chapter of building our city. It is real proof that an office building whose function is simple and common and within the limitations of commercial building, does not directly lead to mediocre and anonymous results. [...] With respect to material, it is indeed one of the more distinguishable buildings in our cityscape, a daring and unequivocal expression for concrete as construction and as a finish. In this way, the finish of the building, which is usually the phase that blurs the clarity of the plan, becomes the phase that projects the real character of the building.

Once again, concrete was a “daring and unequivocal expression”, “projecting character”, not surrendering to mediocrity and anonymity. However, it is of greater interest to read in the above text the explicit opposition between the logic of concrete (“technological solutions” or “glass boxes”). We will linger upon this topic for its general attribute of the developing architectural tradition in Israel: Her mixed feeling towards the “general stream” of world architecture, that is to say, towards the logic of market forces and towards the expressionless architectural products of the business

The El-Al House, planned in 1958 and completed in 1962, is considered the first modern commercial office building in Israel. It thus represents the beginnings of a new era in Israeli architecture, an era during which architecture of size and power begins to free itself from the abstract formalism of the state, upon the city.

In the 50s, relatively large office buildings were built in Israel, but these were mostly governmental, municipal or Histadrut (workers' union) institutions. In accordance with the architectural ideology of the time, the architecture expressed bureaucratic poise, civic transparency and typological clarity. The ultimate model is the Executive Committee House of the Histadrut in Tel-Aviv, designed by Karmi Senior). Morphological creativity was considered blasphemous, tasteless and wasteful expenditure of collective resources. The means of representation available to the architect in order to regulate the relationship between formality and ceremonialism, on one hand, and mundane efficiency, on the other, were limited to the positioning of the buildings in the urban fabric, the design of the entrance procession, the definition of the open spaces around the building (squares, lawns, gardens, parking, service areas etc.), and finally the design of the building envelope as a lattice-work, describing to some extent the organizing method, circulation, and interior modulation of the building and by inference, of the institution. The public buildings of the first decade began to develop an aesthetic of exposed concrete – but more as a direct expression of the schematization and rationalization in planning and in construction. In office buildings, the grid first received (whether in the construction system or in the facade) an external expression in Israeli Architecture and became a trademark of the period.

The El-Al Building, planned by Karmi Junior, declared a double rebellion: against the grayness of Israeli institutional architecture, and against the intolerable technocratic aesthetic of commercial architecture, threatening to dictate its codes upon the developing Israeli architecture. It was thus that one of the first architectural markers of market economy in Israel was born.

contained a rather articulated critique against it. This had been its “pioneering miss importance”: formal particularity in place of corporate typicality, contextual inflexibility (irregular plot lines) instead of autonomous objects “floating” on the site, plasticity instead of rectilinear rigidity, wet casts instead of dry joints, tactility, sensuousness and heft instead of elegance and pomposity, drama rather than show.

From now on, originality is not only the sedative for leftist dogmatism, but also the preventive of the plague of pragmatism appearing from the right, and the generic architectural forecasts. The building, every building – even if it is a work based on borrowed references, citations, transliterated homages etc., - is perceived as an original, as unique an work, born on and unto the site and is not submitable to reproduction and dissemination. A multitude of original objects is supposed to promise the build up of Israeli authentic sectors, functions and programs, and blurring conflicts of interest between corporate and collective identity. And since during the 60s in Israel there is yet no free market to speak of, but a developing economy run by public companies, professional oligarchy of a small number of families, all intertwined to the state apparatus and hegemonic contrivance of the Labor Party - the architecture of the period reproduces the same codes, values and manners (with small nuances) when erecting an office building, travel agents, a new immigrants' hostel for the Jewish Agency, a hotel for a corporation, a sanitarium for Labor Union members, a Synagogue in Jerusalem, a kibbutz, an Academic Campus in the desert town of Be'er-Sheva, the Town Hall in Eilat, an apartment building in Upper Nazareth, a villa in Herzlia, a factory in Dimona, a Military Academy: all unique, all share outstanding morphological resourcefulness, all neglect typological distinctions in favor of new Zionist solidarity, all represent a conscious technological efficiency and a business matter-of-fact approach towards manual labor. “architectural character”, all return to the muddy scene of casting – the sensuous ground of the planner and the builder.



Abraham Yaski, one of the outstanding producers-products of “wet architecture” summarizes it in retrospect: “Concrete is an art and a craft. There’s no chance it would return to it today – not as a fashion, certainly not as a technological interest concerns building, we are moving away from art and craft. With concrete you cast and attain a building, and if you make of the concrete something industrial, an elegance loses the basic principle of poured liquid.”

Today, there are good reasons, certainly for Yaski (who runs today Israel's biggest architectural practice), to miss low technology, high artisanal crafts, buildings without finishing, cladding, and screens; but we recall that in mid-20<sup>th</sup> Century, concrete – submissive to manipulation of all building materials – was a double agent: a measure of concreteness and directness in architecture, it was also the catalyst of unprudent mannerism in the modern era. Its rhetoric of crudity and bareness, which began as a protest de-sublimating High-Modernist dogma, brought about a surface fetishism, of fin-de-siècle (19<sup>th</sup>-20<sup>th</sup> Cen.) obsessions. The material became a playground for morphological sumptuousness, propagated figurative predispositions, and accumulated a bazaar of grotesque silhouettes; the preoccupation with weight, plasticity and monumentality was clearly an inhibitory factor in the development of industrial production processes, light construction and of rational planning.

The all too comfortable absorption of exposed concrete architecture in Israel and throughout all private and public sectors, left here an inventory of buildings creating a unique profile. Derivative as Israeli Brutalism may be, it became, in a span of ten years, a significant signifier of the new indigenous culture. Against the grain of Benham's effort to define Brutalism as a critical attitude or Ethics, in Israel it forged into no less than a style or an ordinary polemic perhaps, but amplified by patriotism and rhetoric of immediate utility. However, such edification and banalization do not indicate homogeneity. The adaptability of concrete and its tolerance for different uses and representations all

architecture rich in gestures and exaggerations, loaded with contrasts and contradictions, possessing multiple embodiments and variable degrees of density, pliability and durability.

Preliminary observations about the dialects of this architecture are due, beginning with a look at the public buildings of the 1950s, which used concrete work to expose their constructive skeleton and its grid of brisoleil. The tendency to expose skeletons or an aesthetic of scaffolding (the anorexic predispositions in architecture beginning in the Gothic period, through to the iron structure of the 19<sup>th</sup> Century, until the Domino of Le Corbusier and the steel structures of the 20<sup>th</sup> Century) are generally referred to as a moment of coalescence between the architect and the engineer - thus triggering the discourse of (F-f-F), transparency and efficiency. Upon another look, however, at the grided facades of the 1950s, (see, for instance, the Vicks library in the Weizman Institute, planned by Arie Averbach), an afterthought arises: How rational is this Rationalism? How functional is this Functionality? How transparent? Are these not remnants of compulsive framing rituals, extreme partitioning, border-lining and grid-locking, determined attempts to construct a difference between that which is contained and inlaid (the thing in itself) and that which is defined by its contoural definitions?

The assumption that this framing compulsion has little to do with engineering or technological propriety or programmatic transparency, is reinforced when observed in the fattening process of the constructive frames (columns, beams, floors) during the 1950s and 1960s, until it becomes ridiculous to refer to them as "skeletons". The Cartesian fabrication and restrained the architectural object (and the architectural practice) began to expose repressed desires. Previous Modernist fetishization of skeletons - theatrical and self-referential as they were - sanctified instrumentalism and longed for de-materialization. The frames demanded a body of their own, a bulk with no bones and no skin, a physical cultural stature that cuts through traditional tectonic distinctions and compresses the notion of Building into a monochrome petrified blend.

As concrete architecture in Israel gains in weight and monomania, its side effects & pathways become clear. Three of these side effects will be briefly described here, slightly moderate the qualities of frankness and directness automatically app “concrete architecture”

Firstly, the pretense. The habit of appropriation, or straight-forward copying of exacerbation of plasticity and the exaggeration of size, were already mentioned. should be added an eccentric custom to refine the language of wet, in situ building, borrowed from the jargon of dry building – joint details, that seem as though they prefabricated industrially. The accentuation of such fake joints entails a special d and complicates the mold-work, but compensates, as it were, for the deficiency building, their non-reproducibility., an assortments of stitches and brackets, looking they had been manufactured in an industrial process, brought to the sit ready and in place.

Secondly, decoration. The tolerance ability of the concrete to receive not only the s mold into which it had been poured, but also its the textural prints, activate architectural nerve and developed a new ornamental skill. In addition to work detailed specific instructions concerning the type and arrangement of the casting craftsmanship of the architect was also required on site, and in many cases, th concrete walls were treated as reliefs and soon were perceived as no less than artis artistic creations, in fact (these would be replaced in the 70s by the mosaic a decorative walls upon the facades of the constructor's public buildings an developer's apartment buildings, to be elaborated in and reception halls of banks agencies)in bank and airline interior lines).

Another side effect or reaction other response to the procedure growing solidification of the material fulfillment of the building, is apparent in counter-attempts to matter and stretch it into bent surfaces. The more figures of great massivity appeared on the landscape, the more light structures, trying to force the concrete into shells by means of barrel-vaults, flat arches and domes and all sorts of paraboloids emerged. As the preoccupation with plastic massivity became common, buildings that aimed to force the concrete to elastic shell, got barrel-shaped curves, flat domes and hyperboles, and various parabolas. The material and construction qualities of concrete as well as its architectural signification were represented by engineering characteristics and the architectural presentation related to construction accepted vice versa: Tension instead of compression, pressure, expansion instead of compactness, formation, spaciousness instead of fullness, fillness, "tents" roof tiles instead of "catacombs".

It may be possible to summarize the various permutations of Israeli concrete architecture as a movement in two principle diverging trajectories of gestures, movements and transitions of the Israeli concrete architecture as a movement of opposition in two paths: the one – faithful to the regularity of the Modernist plan and section – led to the formulation of typological conventions and to the refinement of the autonomous object into a cohesive form, for the strengthening of the autonomous object and transferring the shape (see, for instance, or New Immigrant Hostels design by Abraham Yaski and Aleksandroni). The second – over-sensitive to the specificity of topography, folklore, any other data supposedly calling for creative solutions – leads to a new speech of "Architecture", to the proliferation of organic "regionalist" metaphors, to the natural dismantling and aggregating norms and eventually to the substantiation of the former normative paradigm of the Israeli visual field. [see for example Leo-Beck School planned by Shulamit Nedler, Michael Nedler, Shuel Bikson and Moshe Gil, or "Amal" Tel-Aviv planned by Ram Karmi, Chaim Ketzev and Ben Peleg].

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: [2SS] Comment

: [3SS] Comment

For the first, "Body Without Organs", will be dedicated here lines c  
Antonin Artaud:

The Body is the Body  
It is alone  
I have no need for organs  
The body is never an organism  
Organisms are the Body's enemies.

For the second, "Organs Without Body", Ram Karmi testified:

Like the Stone,  
The basic component for designing arches, domes, openings and  
windows,  
Unifies the heterogeneity of the Arab village –  
So the Concrete,  
Which I use here a lot,  
Unites the formal versatility  
Of the School.

The one disappears almost entirely from the Israeli landscape during the 70s and  
something of its formal rigor and morphological coherence was in fact present in the  
transparent commercial architecture of the end of the century. The second diffuse  
Israeli plane and founded a unique passive-aggressive architecture, definitely local  
covered in marble, painted white, plastered in tones of peach, who on earth cares.

