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A Cultural Contact with the Reinforced Concrete in the 1950s in Turkey: an overview*

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1. Introduction

The leading role of reinforced concrete in the construction of built environment in Turkey has emerged following the Second World War in the period of a radical social, technological, political and economic transformation. In this context, cultural formations of a shared social understanding connected with the technology of reinforced concrete have spread nationwide as well. In the past 50 years, reinforced concrete has become the dominant material in the building and housing industry, replacing the architectural usage of any other alternative building materials. An examination on the use of building materials in the second part of the 20th century unveils a striking picture in the change of the building practice: The rate of the new buildings (getting construction permits) built in reinforced concrete system increases from 5.6 percent in 1955 to 90.7 percent in 2000 according to Turkish Statistics Institute (DİE, 1997, 2005). The emergence of reinforced concrete is usually explained through its technical supremacy. However, the use a building material in architectural cultures of different geographies is related to not only its constructional characteristics, but also to architectural doctrines, building practices as well as political, economic, ideological and cultural strategies. In this regard, 'the society and technology interact with each other; technology is socially 'constructed' or at least culturally embedded and co-evolving' as pronounced by Hale and Braham (Hale and Braham, 2007, p.xiv). The argument of this study is that scientific/technical, economic and aesthetic fields of the reinforced concrete, of which universal validity has gained acceptance in society wide, has been constructed through social interactions. In this regard, the study discusses how the reinforced concrete has dominated the physicalization of economic and political transformation process of national modernization in Turkey.

An investigation of the theoretical frame indicates that reinforced concrete - as other objects in the daily life, is embedded through its practices in society. Having been settled in social memory with specific meanings, specific identities and political approaches, reinforced concrete has become the material of the 20th century. As worldwide, Turkey as well, it has aesthetical, political and economic values in the architectural field via specific forms. Tracing De

Certeau's emphasis on different discursive formations in his *strategy and tactics* discussion, the imaginaries of reinforced concrete spreads around and expands in daily life in two different media. The first one includes scientific/academic and political discourses and exposes a social reason in relation to its object. The second one is the 'shared discourses' of anonymous crowd that is expressiveness of inter-social exchange. The 'imaginaries' and 'ideologies' built in these fields, has influenced building practices of the reinforced concrete.

In Turkey, the decade of 1950s is a milestone for the production of reinforced concrete, indicating the political and economic changes. Multiple readings/reflections of the discourse and practices have paved the way to the institutionalization of reinforced concrete in the architectural field. In this context, this study initially presents a brief history and theoretical framework in the journey of the reinforced concrete in Turkey. Secondly, the re-building of reinforced concrete is presented: in the light of the relation between international style and modernization, it gives examples of specific reinforced concrete buildings and some residential settlements. Finally, it discusses its nationwide cultural reconstruction in discursive readings.

This study, unveiling a section in Turkey's modernization process, contributes to interpretations of modernization processes in material culture in general.

2. Historical Background

The reinforced concrete is the final product of numerous inventions that took place in Europe and the North America, in particular in the second half of the 19th century. Since the last decades of the 19th century, with the acceleration of the capital influx and the development of new transportation facilities, the early buildings of reinforced concrete emerged through the promotions of the concrete firms worldwide. However, in the non-Western geographies, the emergence of reinforced concrete is not related to the industrial production and capitalist system. The reinforced concrete has emerged with a discourse based on *efficiency* and *economy* in the construction practice, and it has turned into a material symbolizing the *modern*. In the physicalization of the *modern*, Auguste Perret's apartment building at rue Franklin in Paris (1903-04), Tony Garnier's project for a *Cité Industrielle* (1901-1904) and Le Corbusier's Domino House (1914-16) are presented as *icons* of a new architecture. The new architecture has been portrayed as the result of an evolutionary process fundamentally linked with the use of the new materials - the reinforced concrete, in particular (Legault, 1997, p.6). The role of reinforced concrete has generated a deterministic discourse and it is brought into a static and descriptive field in architecture, contrary to the disintegration in modern art.

In the emergence of reinforced concrete as a material representing *modern*, Turkey has not been an exception. In Turkey, the centralized administration played the role of a paramount entrepreneur in the building stage of reinforced concrete. The governmental enterprises were triggered by the architectural and

urban achievements in the West. The acceptance of reinforced concrete coincides with the process of impressive discursive production of modern architecture in the 1930s, during the setting up period of the nation-state. The new architecture using reinforced concrete as building material has been shaped and re-shaped in the textual representations of social and urban context – as witnessed in other non-Western countries. In the Early Republican period, the material, widely used in the construction of middle class modern houses and public buildings of Ankara, the new capital, had symbolized a radical break from the past and spatialized the modernity project (Cengizkan, 2004, p.65, Bozdoğan, 2001). In the architectural writings, the establishment of Turkey has been a milestone in the discursive production of reinforced concrete. From the 1930s to the 1950s, *Mimar-Arkitekt* (1931-1981), a unique architectural periodical of the Early Republican period, functioned as a catalyzer of an articulated Western culture to the society. *Arkitekt*, as well as some other architectural publications such as Celal Esat (Arseven)'s *Yeni Mimari* (1931) written by adopting the French architect Andre Lurcat' book, *Architecture* (1929), represented the reinforced concrete as a new material which could solve the problems and correct mistakes: what couldn't have been solved by tradition, was meant to be resolved through science and technology (Cengizkan, 2002). The technical attributions of reinforced concrete, such as it being earthquake proof, fireproof and hygienic, played important roles in the making of a discursive field for new regulations in *Arkitekt* as well.

On the other hand, the use of reinforced concrete, accepted as a high-profile material in an under-developed country, had also become a target of opposing criticisms. From the 1930s to the 1950s, the writings on the reinforced concrete depicted the acceptance process of the material, surrounded by the sentiments of adoration/enthusiasm as well as anxiety/suspense (Cengizkan, 2002). Despite the presence of an intense endeavor to transfer the technology of reinforced concrete by the educators and institutions in *Arkitekt*, as well as in *Nafia İşleri Mecmuası* (The Public Works Journal), the use of reinforced concrete was not widespread until the mid-1950s. When a great number of public investments in the cement industry began, reinforced concrete emerged as a leading material in the construction nationwide.

In post-war Turkey, there were four important steps in the institutionalization of reinforced concrete during the process of social mobility and urbanization of society. At first, the governance model and its surrounding political rhetoric changed: the investments of Democrat Party, based on pragmatist and populist economic policies, replaced secular authoritarianism of the Early Republican period. In this regard, the production field was shaped by a series of political discourses in relation to the infrastructure and building production. Secondly, the architectural discourse was transformed: the previous emphasis of modern in the official rhetoric in architectural production shifted within the changes of political discourses. Thirdly, the architectural legal system and organization was reshaped (the Flat Ownership Act of 1965, put into action in 1966, led the procedure of a large scale social contract that

encouraged the current dominance of reinforced concrete in the building industry). And fourthly, the reinforced concrete became part of the public daily life and popular media: the architectural discourse reproduced the material society-wide. Those four steps, interconnected through complicated and multilayered events/developments in the social network, shaped and re-shaped ways of understandings of the reinforced concrete by the society.

3. Discursive Formations of Reinforced Concrete in the Post-WII in Turkey

With the economic and political changes of post-WII in Turkey, the Democrat Party (DP), promising welfare towards capitalism with the motto of 'the making a little America in Turkey' as well as 'the creation of a millionaire per neighborhood', won the general and municipal elections of 1950. Mainly with American credits (Marshall Aid) for financial development, it was a time of the emergence of agricultural mechanization, industrial investment, the development of new businesses and labor areas in the cities - followed by the emergence of radical migration from villages towards big cities, Istanbul, in particular. The DP joined the USA-oriented Western alliance as well as the west-oriented cultural policies – a radical shift from European influences of the early setting up period (Lewis, 2010). In the political discourses of DP, the concepts like *democracy*, *good life*, *prosperity* and *wealth* became the main rhetoric of the modernization project. The radical transition from the policy of the construction of railway system (which was one of the most important discursive instruments in the transformation of Anatolia into a place of a new nation-state) to a policy based on the construction of high-ways (Tekeli and İlkin, 2004), paved the way to a period of a network of roads built using cement (an expensive imported material of the time) countrywide. Despite the political incentives of DP to stimulate private enterprise into entering the cement industry, the private sector fell short with the state taking charge as the main entrepreneur in the field (Sey, 2003). *ÇİSAN*, a state enterprise founded in 1953, implemented cement plants and let reinforced concrete be the dominant material in the building industry. Since the 1950s, cement became a major instrument of investment for a capitalist growth, and policies in the cement industry have generated urbanization. Both the DP as well as the following right-wing parties in Turkey not only invested resources for the production of cement but also produced influential discourses on the achievement of the material, symbolizing technological modernization.

In this context, against the characterisation of Istanbul as 'decadent' and 'Byzantine' in the early republican years, the DP shifted the discourse on Istanbul, once more, into the 'jewel of Turkey' (Kemal Atatürk's motto for the city) and 'the re-conquest of the city' (Ağaoğlu, 1953; Menderes, 1956) with a connotation of *Ottomanism*. The former imperial center had become a symbolic and financial center for the DP governance (Akpınar, 2003, p.117-118; 2010). Orchestrated with an ideal of rapid modernisation, the DP described a *new Turkish identity* for masses through the network of roads bringing civilisation nationwide. PM Menderes declared the mission: 'making the traffic flow like

water' became a 'national concern' across Turkey, and Istanbul was no exception. And under the Premiership of Adnan Menderes, Istanbul was converted into a great construction site through the opening avenues and demolitions (Akpınar, 2010; Boysan, 2010, p.82, İstanbul'un Kitabı, 1957).

With the network of roads and building projects in Istanbul, the technology of (reinforced) concrete dramatically entered into the urban space and symbolized the rebuilding of the city. Constructed by discursive formations of the reinforced concrete by the DP, the imagination of being 'modern' was teamed up with the mortar of concrete mixers. During radical destruction and construction processes, the technology of the (reinforced) concrete became the focus of city-dweller's interest (Boysan, 2010). Enthusiastically contemplated by masses, the concrete mixers and impressive construction machines opening the roads were represented as 'the precursors of the tomorrow's modern city' (İstanbul'un Kitabı, 1957, p.6). In the 1950s, the construction of the concrete roads and the pouring of concrete process was broadly published in newspapers, and 'cement of 25 cm' had become a catch-phrase to identify the Turkish modernization (Akpınar, 2003, p.172). With all municipal and governmental resources and even military support, the city underwent a radical spatial as well as a social change between 1956 and 1960, during which more than 7,000 buildings were demolished.

The reconstruction of Istanbul was also remarkable in international sense. In 1960, the Union of Municipalities of the European Council awarded *Le Prix de L'Europe* of 1959 to Istanbul, with the goal of encouraging the post WWII reconstruction (the third annual meeting for the selection of the leading city in urban reconstruction held in Strasburg, in January 1960). In the political discourse, nothing could be more significant than a European award to prove that Istanbul was part of a 'civilised West'. In the 1950s, the impetus for modernising reform moved from a 'elite-driven, consensus based, institution-building process' (Bozdoğan and Kasaba, 1997, p.3-4) to a so-called multi-partite democracy visualised by *imar hamlesi* (urban reconstruction shift) implying diversion and change symbolized by *reinforced concrete*. Change, with a connotation of movement, action, motion in Turkish, was characterized by rapidity and combined with the accumulation of capital.

3.1. International Style, Modernization and Constructing the Reinforced Concrete Frame

The 1950s in Turkey welcomed *International Style* in the architectural field as a formation of cultural participation to the West, and a new architectural culture was shaped by prismatic buildings of reinforced concrete in urban scale. In other words, the construction of large-scale reinforced concrete buildings, with their meticulously selected urban locations, symbolized the identity of the decade. This also proliferated in other cities. The capitalist economy enterprises of 1950s bring new buildings and programs to the agenda as symbols of internationalization with a shift from educational/social buildings to commercial ones. In the mid-20th century, the ideological language of reinforced concrete

gained in the Early Republican period starts to dissolve, and it was capitalized/merchandized in the political discourses of DP and in the printed media. Reinforced concrete became the material of hotels, office blocks and bank buildings –taking the place of schools, community houses and ministry buildings in public investments.

Through the broadcast of American movies in Turkey, with the arrival of cultural interactions obtained from work experiences in the American architectural offices as well as through architectural publications such as *Arkitekt* and *L'Architecture d'Aujourd'hui*, the periodicals of the decade (Kortan, 1997; Kaçel, 2007, p.11-12), the cultural formations of reinforced concrete and the increasing number of buildings in *International Style* appear. *Arkitekt* presented an influential medium for the emergence of international style as well as reinforced concrete as a structure system in architecture. A small network from the Academy of Fine Arts, reached the professional architects nationwide, thus creating a bridge between writers in architecture and its practitioners. In the 1950s, the number of articles depicting large-scale building blocks, new technologies, multi-story buildings and housing blocks increased. In postwar Turkey, perceived as a pinnacle of the technological and social development, large-scale blocks and skyscrapers became the focus of interest. The changes of the architectural approaches in the 1950s emerged with the transition from volumetric compositions of the Early Republican practices to the expressions of the structural and programmatic properties of the buildings (Bozdoğan, 2008, p.130). Designed by Skidmore, Owings and Merrill (SOM) and Sedat Hakkı Eldem, the decade was symbolized by the Istanbul Hilton Hotel (1952-1955): It had a significant role referring to the discursive change in the architectural field. Discursive formations around the Hilton Hotel can be traced in *Arkitekt*. The Caribe Hilton Hotel (1949) in San Juan, Puerto Rico, designed by Torro, Ferrer and Torregrosa appeared in *Arkitekt* two years before the Istanbul Hilton did (Ferrer, 1950, p.167-171; Bozdoğan, 2008, p.124). The formal similarity between the two hotels is remarkable (Fig.1).

In the construction of the Hilton Hotel, the reinforced concrete frame was used as a grid system composing the hotel rooms and balconies on the façade. Hilton Hotel and its pattern paved the way to a new architectural conceptualisation. The principles of Le Corbusier (1926) had an impact on the architectural formations of hotels starting with Hilton as well as on the residential designs of the period. The use of reinforced concrete frame were expressed on the façade design, pilotis and roof terrace, and influenced the design of a large number of prismatic building-blocks in Turkey.

The Hilton Hotel, a symbol of American investment and development of tourism and business with the indication of new liberal economic policy, was also a political message against the Soviets in the bi-polarised Second World War (Akpınar, 2003, p.167). In this regard, the Hilton Hotel was articulated with a political and strategical meaning to the rebuilding of Istanbul, and it was publicly financed by the Turkish Pension Funds (*Emekli Sandığı*). The Hilton Hotel, which is announced as the 'the biggest hotel of the Balkans and the

Middle East' in the daily newspaper, *Milliyet* (Deniz, 1954, p.6) was included in the DP's discourse of the regional leadership in Eastern Mediterranean (Akpınar, 2003, p.144). Hilton was placed as a highly visible landmark (Bozdoğan, 2008, p.128), a hilltop in the city with vistas towards the Bosphorus. In this context, the Hilton was identified as 'the eighth hill of Istanbul' (Buğra, 1954, p.3).

In new discursive formations of the spatial/urban identity politics, the desirable lifestyle was pursued and monitored through the Hilton Hotel. There was a great interest of the media and citizens towards Hilton. Its groundbreaking ceremony on 16 April 1951 appeared in the municipality publications as well as its model being exhibited in the *Beyoğlu Kız Olgunlaşma Enstitüsü*, for Istanbulites' curious eyes (Ziyaoğlu, 1952; Fig.2). The process of the building of the Hilton Hotel was broadly published in the newspapers. The focus was on the invited visitors from abroad on the opening day, 10 June 1955, and the resplendent opening ceremony was watched countrywide (Anon, 1955, p.1). The Hilton Hotel has continued to be center of interest with its meetings, visitors and its decorations.

In terms of an imaginary sense, the Hilton Hotel penetrated into the city dwellers mind as an influential novelty. Having been involved in the daily narrations, it became a folk-tale integrated with the popular images and faces of the period. The representations of reinforced concrete went out of the narratives of the elites. The new readings of the material framed the textual representations in such a way that the border between the scientific/ideological writing of reinforced concrete and the urban experience integrated.

The international style manual/formula was repeated on new buildings and the grid of the reinforced concrete frame became prevalent not only in Istanbul, but nationwide. The expression of the reinforced concrete on the façade was adapted to the many other hotels such as Çınar Hotel (Rana Zıpçı, Ahmet Akın, Emin Ertan, the 1950s), Tarabya Hotel (Kadri Erdoğan, 1957), Efes Hotel in İzmir (Paul Bonatz, Fatih Uran, 1957) and Porsuk Hotel in Eskişehir (Vedat Dalokay, 1956) (Vanlı, 2006, p.211). The Anadolu Club Building on Büyükkada (Prince's Islands) in Istanbul (Turgut Cansever and Abdurrahman Hancı, 1959) was one of the notable example symbolizing the rationalist conception of the period. The Istanbul City Hall (Nevzat Erol, 1957) was an earlier example amongst the public buildings, with a similar manual. The grid system of the façade expressing the section of the building was adopted to the many other programs and became dominant on the façade of residential buildings. The Lawyers' Cooperative (1960-61) in Mecidiyeköy in Istanbul, designed by Haluk Baysal and Melih Birsel was one of the high quality and respectable housing-block amongst the residential buildings.

The economic conditions as well as conceptual instruments of the 1950s were physicalized in the urban pattern, and were reproduced via the textual representation of the material as well as the urban context. In this process, the

prisms of reinforced concrete and a powerful rhetoric surrounding the buildings supported the expansion of the material in nationwide.

3.2. Constructing the Multi-story Residential Areas

In the postwar era, a single-family villa within a garden, paradigm of the modern house in the early Republic, was replaced by housing-blocks (Bozdoğan, 2008, p.128). In the 1950s, along the symbolic reinforced concrete buildings, due to rapid urbanization, construction of large-scale residential areas increased. The *Emlak Bank* (real-estate bank) established as expert on the housing sector, played a major role in the construction of multi-story residential areas of the decade. The *Memurin Apartments* (Saracoğlu), a project of Emlak Bank Building Limited Company and started to build in 1944, and Levent and Ataköy apartments in İstanbul (Güvenç and Işık, 1999) were the first examples of the use of reinforced concrete in large scale residential areas. Between 1950 and 1965, the Levent project was finished; the I. II. and III. Parts of the Ataköy project were completed.

With reinforced concrete, modern facades and new equipments, were presented with a brand new vocabulary to symbolize the spirit of the 1950s and the DP government in the field of architecture. The nationalistic mood of citizens based on the motto of 'citizen, use national product, and save money' of the early republican years was turned into consumerism represented by purchasing western products and imported goods of better quality than before (Akpınar, 2003, p.166-167). In this context, the reinforced concrete gained new meanings. An important concept enveloping reinforced concrete was 'comfort' - referring to the 'good life'. A modern life style in Turkey was symbolized in the apartment life and shaped by the equation of middle class culture=modern family = flat in a housing block (Öncü, 2010, p.92).

The imaginaries of the reinforced concrete proliferated in the everyday life. Articulating with the terminologies of 'comfort', 'new' of the modernized world domestic newspapers re-shaped the meanings of the reinforced concrete. The bank advertisements also played a role in the visualization the desire of buying/having a flat (Fig.3). The stimulus of the flats via visual media, created a medium shaping the readers' perception on its investment. Reinforced concrete housing block was united with the myths of 'good' and 'ideal life' that the folks/consumers/users desired along the 1950s.

4. Conclusion and Discussions

To tell the story of reinforced concrete in Turkey depicts not only the development of the sector of a building-material but also a turbulent modernization process of a country. Embedded with local meanings, the material symbolized economic and political transition as well as change in Turkey. The community-wide cultural contact with the reinforced concrete technology met the transformations occurred in the political, economic and social areas of the decade of the 1950s. The meanings of reinforced concrete as a material of Early Republican period for the cultural projects, began to dissolve

within populist politics of the DP. While reinforced concrete proliferated through daily newspapers and magazines in the everyday life, it was equipped with new concepts like 'good life', 'welfare', 'comfort' and 'wealth'. In this regard, the history of reinforced concrete might be interpreted as a dissociation process of the illusion produced by the secularization project, from the early years of the Republic until today (Tanju, 2007, p.91). When reinforced concrete began to circulate in the popular media, new ways of textual representations as well as interpretations became possible. In the story of the reinforced concrete, what separates the periods before and after the decade of the 1950 is that the transformation of its functions, investors, practitioners, producers and users.

Following the 1950s, reinforced concrete, emerging in rural area, was broadly criticized, in the housing production via strategies and tactics. The Flat Ownership Act of 1965, (put into action in 1966), affected the expansion of reinforced concrete. In this process, it became an economic tool for the builders. Reinforced concrete formulas exit the representational area and the figuration concerns of the building contractor substitute the figuration concerns of the architect (Tekeli, 2011). The fundamentals of this production were the interests and benefits of different groups based on economic factors. Reinforced concrete was used as a tool reducing the construction costs because of its characteristics of stability under any condition. During the second half of the 20th century, the rhetoric of reinforced concrete went beyond the modernization discourse. The strategic model of the central government and the elite class was transformed. The fast expansion of the reinforced concrete eliminated the know-how of other construction materials, and also transformed reinforced concrete into a material representing the loss of previous life styles.

In Turkey, where the reinforced concrete sovereignty continues, its technology deserves a bigger technical repertoire, research and experiment. It is also important to preserve the qualified buildings, which have an important place in the urban/social memory - constructing the architectural culture. Except for a few examples of reinforced concrete buildings constructed meticulously, the required tectonic knowledge for reinforced concrete construction is missing countrywide. As Cengizkan points out, the abundant tectonic properties of reinforced concrete, which are disappearing and degrading because of the widespread use in the housing construction (2002, p.342), needs to be rediscovered by new practices and approaches.

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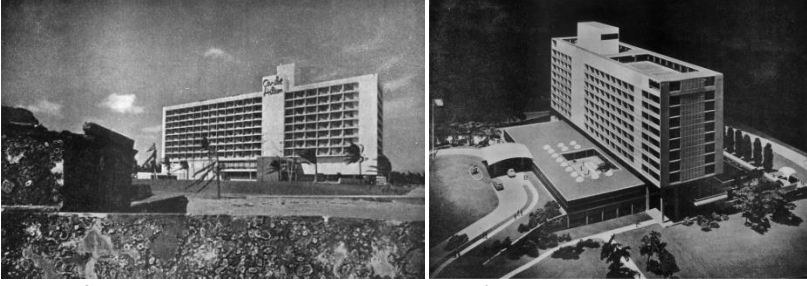


Fig.1.Left: Caribe Hilton Hotel in Puerto Rico (Toro, Ferrer &Torregrosa, Warner-Leeds, Hunter Randolph) (*Arkitekt*, 1950,p.167-171). Right: Hilton Hotel (SOM and Sedad Hakki Eldem) (*Arkitekt*, 1952. 3-4, p.56-63).



Fig.2. Left: Citizens looking into the model of Hilton Hotel in Beyoğlu Kız Olgunlaşma Institute (Ziyaoğlu, 1952). Right: One of the news about Hilton Hotel reflecting political discourse of the DP (*Milliyet*, 11.11.1950, p.1).



Fig.3. House advertisements of Yapı ve Kredi Bankası (Building and Credit Bank) (*Hayat*, 28 June 1957, 38, p.2; 22 February 1957, 20, p.2).

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