

# ARCHITECTURE COMPETITION PROPOSALS IN THE BODY OF WORK OF THE KKK GROUP (1931–1939) IN THE KINGDOM OF YUGOSLAVIA

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Jovan Korka, Đorđe Krekić and Georg Kiverov are important protagonists of modern Croatian architecture. The three architects worked together in the KKK Group (name derived from their last names) between 1931 and 1939 in Zagreb. During this period, “the group” produced an impressive mass of work including the realisation of public and residential buildings in Croatia and the region; participated in competitions in the Kingdom of Yugoslavia with brilliant design solutions; held exhibitions and published several professional papers. Famous from the beginning of their professional work in Croatia’s capital, in the second half of the 1920s, they were forgotten after WWII. Their names emerged in almost every compilation or architectural guide of modern Croatian architecture due to the built edifices that were the outcome of the member’s efforts in competitions, and yet for a long time, very little was known about the authors and especially about the KKK Group. Only recently is their body of work being studied systematically.

This article deals with competition projects, the unexplored body of work of the Group, and a crucial part in their success. In twenty instances of participation in competitions currently known, in only eight years of collaboration, the group was awarded 14 times (individually and jointly), often with one of the first three awards. A chronological overview of competition participation and a more detailed analysis of five available joint competition entries was carried out as a contribution to the valorisation of the body of work of these important and yet forgotten protagonists of modern architecture in the Kingdom of Yugoslavia and especially in Croatia.

**Keywords:** Đorđe Krekić, Georg Kiverov, Jovan Korka, Croatian modern architecture, competition projects, Croatia, Kingdom of Yugoslavia, KKK Group

## INTRODUCTION

Georg Kiverov (1897–1976, of Russian roots, born in Poland) and Jovan Korka (1904–?, born in Croatia) graduated architecture together in Zagreb, while Đorđe Krekić (1903–1993, born in Bosnia & Herzegovina) studied in Germany and Austria.<sup>1</sup>

As young architects, they met in the office of the then well-known architect Vladimir Šterk who figured as their employer and mentor at first and then occasionally even as a collaborator. The trio founded the KKK Group in 1931 in Zagreb, Croatia and worked together until 1939. The name of the Group was an acronym formed from the first letters of their members’ last names. During the eight interwar

<sup>1</sup> Ajzinberg Private Archives in Serbia; Kahle 2017. 256–271.

years, the trio designed and built public and residential buildings both in Croatia and the region. They participated in competitions with brilliant design solutions in the whole Kingdom of Yugoslavia,<sup>2</sup> held exhibitions and published several professional papers. After the intensive and prolific period between two World Wars in Croatia, the three architects worked as pedagogues and separately, continued to pursue professional careers elsewhere.<sup>3</sup>

The members of the group had already become famous at the beginning of their professional work in Zagreb in the second half of the 1920s because of the collaboration with the architect Šterk, mainly on residential architecture, and later because of their success in competitions. In various collaborations, together or separately, they designed more than a hundred buildings.<sup>4</sup> The group was considered as one of the most successful and longer-lasting in Zagreb in that period. Its influence was also important at the level of the Kingdom of Yugoslavia, which can be seen from the results of their work, professional magazines and newspapers and the praise from juries all over the State. There are no indications of a wider impact in this research.

The work of the three was forgotten following WWII, even though it was mentioned in almost every compilation or architectural guide of modern Croatian architecture due to the built edifices that were the outcomes of the member's efforts in competitions.<sup>5</sup> Their names were also mentioned in studies concerning competitions held between the two World Wars, and yet little was known about the authors. Their body of work has only recently been systematically studied with basic biographical information and an overview of work done in Šterk's office<sup>6</sup> together with a detailed analysis of their public buildings in Croatia.<sup>7</sup>

This article addresses the issue of competition projects in the work of the group. It represents a step in completing the puzzle of the collective work of three architects in the KKK Group and a contribution to the study of modern Croatian architecture. Various questions arose, among others, at the beginning of the research: why so little is known about so many successful projects; what does their remarkable success in

<sup>2</sup>After the break-up of the Austro-Hungarian Empire, a large proportion of today's Croatia became integrated into the Kingdom of Serbs, Croats and Slovenes, subsequently the Kingdom of Yugoslavia; while some coastal cities, territories and islands were under Italian rule until the end of WWII. After WWII, the Kingdom of Yugoslavia passed to the Socialist Federal Republic of Yugoslavia. The work of the Group concerns the whole territory of the Kingdom of Yugoslavia.

<sup>3</sup>For more about the formation of the Group and the biographies of the members see: Matan et al. 2018. 84–97. Kahle 2017. 20–39; Kadijević 2017. 358–371. Less known facts about the members' work after WWII: Korka helped translating "Architects' Data" by Ernst Neufert and published a manual entitled "Schools". Krekić was engaged in painting and interior architecture. Kiverov was also an icons' painter. Ajzinberg 2013. 4–6; Andrey Redlich Private Archives, Germany.

<sup>4</sup>Kahle 2017. 256–271.

<sup>5</sup>Potočnjak 1939. 79; Laslo 1987. 97–110; Premerl 1990; Uchytel et al. 2011; Karač et al. 2015; Damjanović 2016.

<sup>6</sup>Kadijević 2017. 358–371; Kahle 2017. 256–271.

<sup>7</sup>Matan et al. 2018. 84–97.

competitions tell us about their work; what was their influence on the development of modern architecture in Croatia; what were the influences on their work and what were the main assets in their competition body of work.

In twenty instances of participation in currently known competitions, in only eight years of collaboration, the group was awarded on 14 occasions (individually and jointly), often one of the first three awards. A success enhanced due to many of the mentioned competitions being among the important ones at the time, with great response from prominent competitors. The focus of the research is on the reconstruction of the group's competition body of work from scarce documentation and its valorisation, and striving to contribute to the preservation of the group's intangible cultural heritage; general data on competitions is only provided for less known competitions.

In addition to a short introduction to the theme of architectural competitions in the Kingdom of Yugoslavia during the modern movement period, the chronological review of the trio's participation in competitions was reconstructed by analysing the found data, and a more detailed analysis of five available joint proposals. Taking into consideration the competition programmes and the characteristics of the building sites, the proposals were analysed from the aspect of urbanistic and functional solutions, design elements (volume composition and articulation), applied materials and structural solutions. Furthermore, the comparison to prominent contemporaneous Croatian architecture is performed to achieve a critical detachment. Notes on European advanced contemporaneous architecture point out the striving for state of the art functional and technical solutions in the group's projects.

There are no Archives on the group's members work or an archive preserving their joint work. Two private archives data used in this research were CV sketches by architect Đorđe Krekić from the Aleksandar Ajzinberg Private Archives in Serbia, and some data covering Georg Kiverov's work after WWII from the Andrey Redlich Private Archives, Germany. Of twenty currently known instances of participation in competitions, only several, mainly incomplete project documentation sets have been preserved to date. Besides the building permit documentation for Dr Glušćević's Villa (State Archive, Dubrovnik), and jury reports for the Roman Catholic Church of Sts. Cyril and Methodius competition in Sušak (State Archive, Rijeka), all the other proposal's plans are only available as partially published in professional magazines and daily papers ("Građevinski vjesnik", Slovenian "Arhitektura"; "Novosti", "Jutarnji list", "Slovenac", "Politika"). The analysed competition documents were plans and perspectives. Other analytical sources were published authors' texts on competition proposals and decisions of the panel of judges, daily paper texts and existing researches on competitions in the 1930s. One other source is the archive of the architect Zoja Dumengjić (Zagreb City Museum Archive), who participated in many competitions mentioned in the article.

## ARCHITECTURAL COMPETITIONS: A PLATFORM FOR A MODERN MOVEMENT DEVELOPMENT

The necessary reconstruction of European cities and societies after WWI encouraged a vivid construction activity. In this process, architecture was also a tool for shaping national identities and a materialisation of political ideologies; a process helped by architectural competitions while simultaneously developing the modern movement.<sup>8</sup> The creation of the new state after the breakup of the Austro-Hungarian Empire, together with rapid industrialisation and increased city population, demanded reconstruction, development of cities and a rapid transition into the modern era. The government of the new state wanted the creation of a “Yugoslav style” (particularly for the capital Beograd), which would avoid the national connotations and apply a combination of modernist and neoclassical elements with the Russian influence (particularly Neo-Byzantine revivalism). Croatian and Slovenian architects were considered more progressive in following the contemporary architectural tendencies at the time, which was, among others, a reason why their many successful competition proposals on a state level were rarely implemented.<sup>9</sup> Architectural competitions became common practice in the Kingdom of Yugoslavia after WWI, and its number increased with time. According to the regulation from 1920, there was an obligation to organise public competitions for all buildings of major significance and exhibitions of all competition proposals; this included town planning and various building typologies. Due to the lack of modern architectural realisations at the time, architectural competitions were the most important route for the development of new concepts. Architecture competitions’ proposals exhibitions were numerous and beloved by the public in Zagreb since they gave surprising new visions for various city parts. Counting on this interest, the daily newspapers regularly reported on competition results and published images of awarded proposals, which brought publicity and fame to the young architects.<sup>10</sup>

Foreign, modern architecture was also exhibited, influencing professionals and the wider public; one of the first exhibitions on modern architecture in Zagreb was the exhibition on Czechoslovakian architecture in 1928, with one German art and architecture in 1931. Croatian architects who studied abroad (mainly Austria, Germany and former Czechoslovakia) participated in foreign competitions and also exhibited their work; hence the reason why modernity from these countries was the main influence on modern Croatian architecture. State of the art projects from all over Europe and wider were regularly published in professional magazines, and foreign professionals were invited to send their articles and participate in debates concerning the experiences with reinforced concrete and its regulation.

<sup>8</sup> There were more than 90 architectural competitions for the city of Rome alone from 1921–1943, in which more than 300 professionals participated. (Docci et al. 2007. 354–375).

<sup>9</sup> Ibragimova 2016.

<sup>10</sup> Ibragimova 2016; Radović Mahečić 2007.

International competitions were rarely held in the Kingdom of Yugoslavia, mainly because of the organising cost, the scarce knowledge foreign architects had of the specifics of the area, and the opposition from local architects. Croatian architects actively participated in State level competitions between the two World Wars: there were more than 50 competitions just for the city of Belgrade, around 30 in Split and probably more than 40 for Zagreb. The competition results were rarely implemented regardless of the type of competition; scandals and affairs were linked to this practice. In reality, only six proposals awarded a first in Split were brought to realisation; while the first prize was awarded in only five open competitions in Zagreb during the 1930s. Despite this, participating in competitions was a way for architects to get publicity and promote their work in professional circles, get in touch with the public and maybe attract investors.<sup>11</sup>

## A CHRONOLOGICAL OVERVIEW OF COMPETITIONS

The architects Korka, Krekić and Kiverov were a happy, creative group, the roles of designers and collaborators were easily combined in various projects from the beginning of the collaboration, which is why single members' success in competitions is inseparable from that achieved by the group during the period of collaboration; although, here, only their joint work is being studied in detail.

Even though the KKK Group was established in 1931, the members of the group continued to collaborate with the architect Šterk's office intensively until 1936, and to a much lesser extent even after that period. One of the possible reasons, other than the obvious prolific collaboration from both sides, was that Šterk participated with Korka in the competition for the Workers' Institutions' Palace. This collaboration won first prize in the competition, but more importantly, a few years later, it resulted in the realisation of five public buildings in Croatia. In two of those buildings, (the Public Labour Exchange and the Chamber of Labour, both in Zagreb), Šterk played the role of a co-author, and in one he was a collaborator (Public Labour Exchange in Karlovac). The development of plans and the realisation of these buildings lasted from 1934–1940. Šterk did not participate in the rest of the group's competition work.<sup>12</sup>

The reduced building activity in Zagreb after 1932, caused by the Great Depression, was probably one of the reasons for the group's constant participation in architecture competitions until the end of the 1930s. The group participated in approximately two to three competitions per year.

Even though the focus of this work is on the period of collaboration of the authors in the KKK Group, in order to grasp the distinctiveness of the authors' profiles, it is

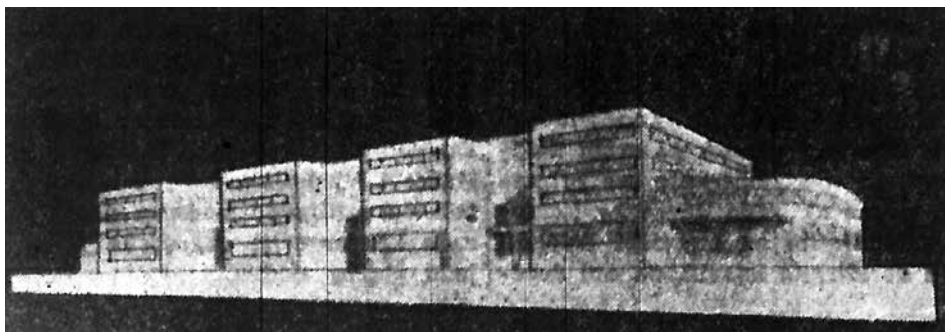
<sup>11</sup>Premierl 1990. 178; Bjažić Klarin 2006. 64–73; Bjažić Klarin 2007. 313–326; Radović Mahečić 2007; Ibragimova 2016; Tušek 1994. 76–79.

<sup>12</sup>Matan et al. 2018. 84–97.

important to mention the successful collaboration between Kiverov with another Russian architect in Zagreb before joining the group. Kiverov, who was several years older than Krekić and Korka, collaborated in competitions with Zoja Nepenina (later Dumengjić) and later also with Selimir Dumengjić (her husband), from 1920–1931, in three competitions and won two prizes; the repurchasing prize in the international competition for the Jewish Hospital in Zagreb in 1931 was considered a very important success.<sup>13</sup>

One of the first of the group's competitions collaborations occurred at the beginning of 1930s for the Villa of Ban Dr Perović on the island of Rab, for which the group was not awarded, and the project was not implemented.<sup>14</sup> In the first two years of collaboration, the members of the group independently won three prizes in important competitions. Korka and Krekić won, in summer 1931, third prize in an open competition for the Roman Catholic Church of Sts. Cyril and Methodius in the Sušak area, on a site by the sea (today's Park Augusta Cesarca), in Rijeka. The park design was also required as a part of the project. The group's proposal was not realised, but according to the jury, it had "massive and simple forms and accentuated entrance", a recognisable feature in all their subsequent projects. The church has never been built on this plot of land.<sup>15</sup>

Jovan Korka achieved the first prize in an international two-stage competition for the Workers' Institutions' Palace (*Palača radničkih ustanova*) in Klaićeva Street, Zagreb (Fig. 1) in 1932. The competition programme required two buildings for three institutions (Workers' Chamber, Labour Exchange and Immigrant Commissariat) in addition to other required contents. The development of a complex project task was



**Figure 1.** The perspective drawing of Jovan Korka's awarded competition proposal (first stage) for the Palace of worker's institutions in 1932 (*Novosti* 15.06.1932. 16)

<sup>13</sup> Alvar Aalto also participated in this competition. (Laslo 2004. 111–131).

<sup>14</sup> Kahle 2017. 20–39.

<sup>15</sup> First prize was not granted. To find out more about the competition see: Lozzi Barković 2007. 66–79; Mutnjaković 1997. 74–89. The architects found out about the award from daily papers and wrote to the jury in order to get more information about the results. State Archive Rijeka (DARI), Gradski građevni ured u Sušaku 1922–1941. (JU 48), box n. 56/ KATOLIČKA CRKVA SV. ĆIRILA I METODA NA SUŠAKU, ŽUPNA CRKVA: NEREALIZIRANI PROGRAM 1923–1931.

assisted by Šterk. The panel of judges criticised the proposal for “massive building volume” and the poor functional solution of some sections but praised the solution provided for the Labour Exchange building. Irrespective of the criticism, the authors won first prize and the building realisation in 1933; although, eventually, the palace was never built.<sup>16</sup>

Moreover, in 1932, Kiverov and the construction engineer Jovičić, won second prize for an urban-architectural concept of the “*Vinovrh*” estate in the area of Vrhovac in Zagreb, owned by the association for the employment of artisans named “*Hrvatski Radiša*”. The modern settlement had to have 400 houses, a hotel with a restaurant and a pool, shops, children’s playground and a tramway. Kiverov’s project was not implemented, and the settlement was never realised.<sup>17</sup>

The year 1933 was very prosperous for the group, as they competed in three important competitions and won three top prizes. They won second prize, among 45 competition proposals, in an international competition for a Modern Settlement of Railway Workers, called “*Crni Vrh*”, in Sarajevo on today’s municipality called “*Centar*”, and based on other earlier similar examples in Europe (Weissenhof Settlement in Stuttgart from 1927).<sup>18</sup> On a steeply sloping plot of land, houses were planned to be built on 93 plots, based on five housing type proposals. The group’s project was not implemented. The settlement was developed and built after the competition.<sup>19</sup>

The next success that year was second prize, among 80 entries, in an open competition for a state printing house in Belgrade (“*Državna štamparija*”), one of the most important industrial complexes in the Kingdom of Yugoslavia.<sup>20</sup>

Following this, among 30 contestants, was the third prize in a state-level competition for a Hotel for the Yugoslav Shareholders Society (“*Hotel Jugoslavenskog akcionerskog društva*”) in Split, on the city’s west coast.<sup>21</sup>

During 1934, the group participated in two competitions and won two second prizes. The first was the open competition for the building of the Yugoslav Teacher’s Society (“*Dom jugoslavenskog učiteljskog udruženja sekcije za Dunavsku banovinu*”) in Novi Sad, on which they won second prize among 45 competitors.<sup>22</sup> The

<sup>16</sup>For more about the competition see: Mikić 2002; Bjažić Klarin 2006. 64–73; Zagreb City Museum, Archive of the architect Zoja Dumengjić; *Novosti* 1933. 8; *Jutarnji list* 1933. 18; *Građevinski vjesnik* 1932. 96; Bjažić Klarin 2007. 313–326.

<sup>17</sup>For more about the competition see: Križić Roban 2000.192–205; Ostrogović 1932. 3–8; Tušek 1994. 76–79; *Građevinski vjesnik* 1932. 33; *Novosti* 1932. 16.

<sup>18</sup>Kirsch 1989. A modern settlement has also been constructed from 1931–1941 in Zagreb (Novakova Street) but without the social component of the project. Blau 2007. 142–151.

<sup>19</sup>First prize was not granted. Two third awards were given to Slovenian architects D. Kocijan with F. Novak, and to Bruno Tartaglia from Sarajevo. Four proposals were purchased from unknown authors. The Group’s proposal code: “33333a”. (*Građevinski vjesnik* 1933. 13; Pudarić 2009; Plićanić 2013).

<sup>20</sup>Iljievski 2014. 259–276; Aleksandar Ajzinberg Private Archives in Serbia; Ibragimova 2016; Baylon 1975. 10–13; Ajzinberg 2013. 4–6; *Slovenac* 1936. 8; Blagojević 2004. 182–185.

<sup>21</sup>Paladino 2006. 167–175; Paladino 2011. 191–226; Tušek 1994. 76–79.

<sup>22</sup>Zagreb City Museum, Archive of the architect Zoja Dumengjić; Baylon 1975. 10–13; Kiverov et al. 1934. 81–84; *Građevinski vjesnik* 1934. 93.

second was a Local competition for a Lodge of the Croatian Alpinist Society ("*Dom planinarskog društva*") on the mountain peak Sljeme near Zagreb, where they won second prize among 33 competitors after a two-stage competition.<sup>23</sup>

During 1935, the trio participated in a public competition for a school complex ("*Državna obrtna škola i gradska centralna stručna produžna škola*") in Savska Street in Zagreb and won a purchase prize. The competition proposal was not realised.<sup>24</sup>

In an open competition for the State Stamps Printing House ("*Državna markarnica*") in Belgrade, Korka, in collaboration with Krekić, won third prize in 1936. The competition proposal's drawings were not found. On a steeply sloping plot, besides the printing facilities, a solution for a kindergarten, housing for the administrative staff and a Villa for the director was requested.<sup>25</sup>

In 1937, the KKK Group participated in three open competitions for public buildings in Belgrade and won two prizes; the members of the group also successfully competed individually. In a competition for the Ministry of Education, they won a purchase prize among 41 competitors. The location of the site was in the streets that, at the time, were named *Birčaninova* and *Kneza Miloša*. The programme of the competition required a façade for the building that would reflect the "administrative building character". Irrespective of awarding modernist projects, the realisation of the building was assigned to the architect G. Samojlov with a neo-classical project that was considered appropriate for the image of the new capital of state. In the end, the site location was changed, and the project was not realised. The group's proposal was not implemented.<sup>26</sup>

For the Bank Palace of Belgrade Cooperative (*Palaču banke Beogradske zadruga* or *Beogradska zadruga*) competition, among very scarce sources, it is evident that they won one of three shared prizes (probably second prize).<sup>27</sup> The project was not realised.

The group also participated in 1937 in an open competition for the Pension Fund of the National Bank Palace (*Zgrada penzionog fonda činovnika i služitelja Narodne banke Kraljevine Jugoslavije*) but ended up without any awards (nor was this project

<sup>23</sup> Bjažić Klarin 2006. 64–73; Paladino 2006. 167–175; *Novosti* 1934. 7.

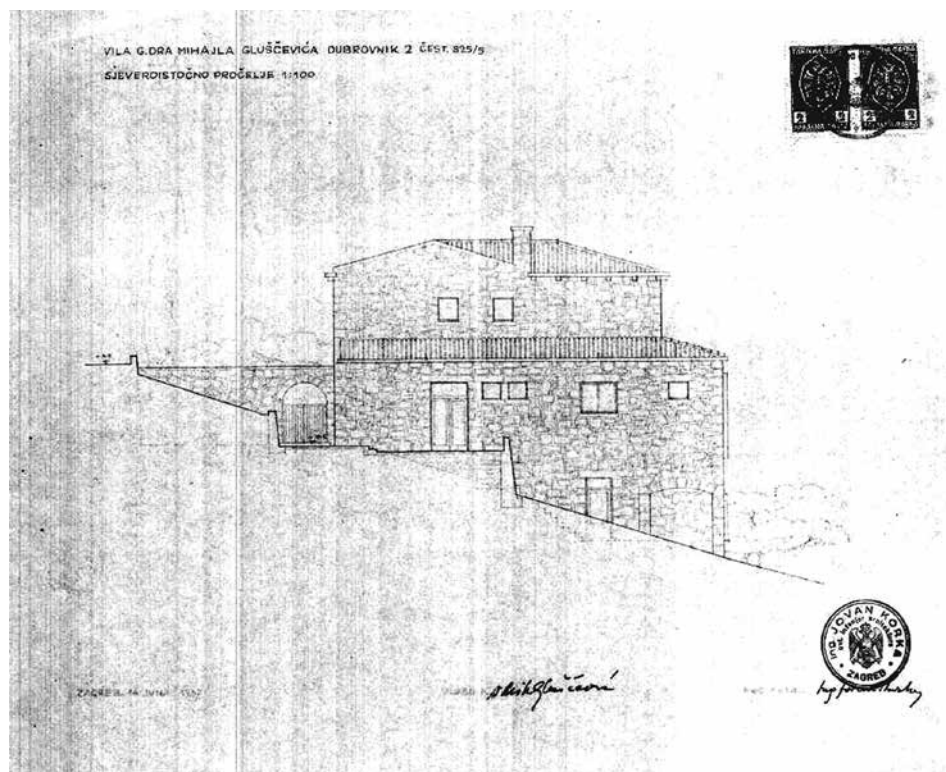
<sup>24</sup> For more about the competition see: Barišić Marenić 2007. 190–198; Barišić et al. 2009. 284–296; Bjažić Klarin 2007. 313–326.

<sup>25</sup> The architect Krekić mentioned the collaboration in this competition in a draft for his memoir. Aleksandar Ajzinberg Private Archives in Serbia, from a CV sketch by the architect Krekić, kindly provided by Mr Ajzinberg. The first prize was not awarded, two-second prizes were awarded to Haberle with Bauer and to M. Prljević (all from Serbia). Among well-known competitors were M. Zloković, M. Prljević, B. Nestorivć and G. Samojlov from Serbia. (Ibragimova 2016; Baylon 1975. 10–13; Ajzinberg 2013. 4–6; *Slovenac* 1936. 8).

<sup>26</sup> First prize was not granted; two-second prizes were given to the architects M. Haberle with H. Bauer, and M. Čakelja from Skopje. Third prize was given to M. Baylon with E. Šamanek from Sarajevo. From ten purchase prizes, one was awarded to B. Bon. (Baylon 1975. 10–13; Ibragimova 2016; Kadijević 2017. 358–371).

<sup>27</sup> Two other shared prizes were given to M. Prljević and B. Marinković. Thirteen more purchase prizes were given to unknown authors. A well-known architect Marijan Haberle also participated in this competition. (Baylon 1975. 10–13).





**Figure 2.** Northeast façade of a Villa for dr. Mihail Glušćević. Jovan Korka's awarded project in a closed competition (State Archive Dubrovnik, DAD, HR-DADU-292. The collection of building plans of Dubrovnik Municipality (subject 123/37))

implemented).<sup>28</sup> Krekić accomplished great individual success by creating plans for the Yugoslav wood industry pavilion (*"Bosanska kuća"*) for the World Fair in Paris.<sup>29</sup> Another individual success was Korka's first prize (and realisation) in a closed competition for a Villa for Dr Mihail Glušćević (Fig. 2).<sup>30</sup>

In 1938, in an open competition for the Ethnographic Museum in Belgrade, the members of the group won another second prize among 21 competitors.<sup>31</sup> Based on

<sup>28</sup> From 29 competition proposals, six were awarded. First prize was granted to G. Samojlov, second to M. Prljević with I. Bijelić, third to M. Ivačić. Purchase prizes were given to Zloković, and S. Delfin, R. Marasović, and M. Šterić. (Prosen 2003. 1–24; Ibragimova 2016).

<sup>29</sup> For more about the competition see: Bjažić Klarin 2013. 179–192; Aleksandar Ajzinberg Private Archives in Serbia, from a CV sketch by the architect Krekić, kindly provided by Mr Ajzinberg.

<sup>30</sup> The competition procedure and the realisation of the building occurred from the second half of 1936 and the beginning of 1937. Other well-known competitors were: Kauzlarić with Gomboš and V. Simeonović (from Beograd); BAĆE 2010; State Archive Dubrovnik, DAD, HR-DADU- 292 The collection of building plans of Dubrovnik Municipality, (*Zbirka građevinskih planova općine Dubrovnik*) (subject 123/37).

<sup>31</sup> Ibragimova 2016; 1938. 129–131.

scarce resources (no plans found), it is assumed the group's participation in a competition for a residential palace of the Serbian Orthodox Church in Zagreb occurred in 1939.<sup>32</sup>

In a draft for a memoir, Krekić mentioned several other competitions of the group for which no data is available: a temple in Cetinje and a resort in Bar.<sup>33</sup>

## THE ANALYSIS OF FIVE AVAILABLE ARCHITECTURAL DESIGN COMPETITION PROJECTS BY THE GROUP KKK

### STATE PRINTING HOUSE IN BELGRADE, 1933

Modern industrial, architectural construction, with structural innovations and the use of modern materials, began at the end of the nineteenth century in Europe, with a slight delay in the Austro-Hungarian Empire and consequently also in Croatia. The complex projects for these structures before WWI were mainly provided by Imperial architects.<sup>34</sup> The local architects did not have opportunities to work on this typology between the World Wars, because new industrial complexes were rarely built; instead, existing ones were renovated and expanded.<sup>35</sup>

The complexity of designing an industrial building consisted of solving structural challenges, the use of modern materials for bold spans and huge glass surfaces, all considered experimental in the Kingdom of Yugoslavia at the time. Another challenge was solving the technical requirements for state-of-the-art printing industry technologies, not well defined by the competition programme, which caused futile protests by the architects at the beginning of the competition.

The architect Dragiša Brašovan won the first price in this competition, the group won the second, the third prize was awarded to an unknown participant, and the architects Zoja and Selimir Dumengjić won a repurchasing prize.<sup>36</sup> Other well-known participants were Lavoslav Horvat, on his own and in collaboration with Stjepan Planić, Drago Ibler, Marijan Haberle, Antun Urlich, Stanko Kliska, Milovan Kovačević, Aleksandar Freudenberg, and Vlado Antolić. The competition rules requested a contemporary printing house with administration and workshops to the area of 3200 m<sup>2</sup>, in what at the time were “*Njegoševa*” and “*Prestolonaslednika Petra*” Streets in Belgrade.<sup>37</sup>

<sup>32</sup> Kahle 2017. 256–271.

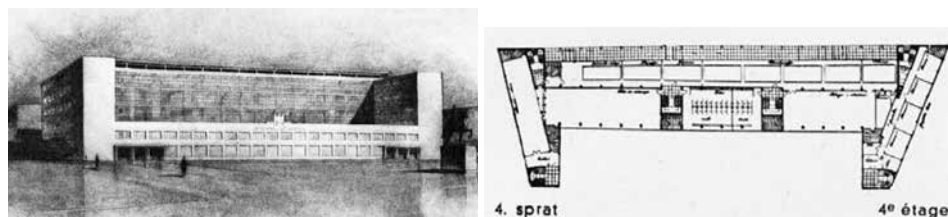
<sup>33</sup> Krekić also mentioned a successful collaboration after WWII (1945–1953) with Korka. Aleksandar Ajzinberg Private Archives in Serbia from a CV sketch by architect Krekić, kindly provided by Mr Ajzinberg.

<sup>34</sup> Even in the period between the two World Wars, foreign architects were hired for specific kinds of industrial buildings because of the lack of experience of the local professionals.

<sup>35</sup> Premerl, 1990. 94–97.

<sup>36</sup> The Group's proposal code was “D.Š. 3334” (*Politika* 1933. 5).

<sup>37</sup> Ilijevski 2014. 259–276; 1934. 6; Zagreb City Museum, Archive of the architect Zoja Dumengjić; 1933. 5; Ibragimova 2016; Premerl 1990.



**Figure 3.** The perspective drawing of the State Printing House (*Arhitektura* 4 (1934) 1. 6). – **Figure 4.** Fourth floor plan of the State Printing House (*Arhitektura* 4 (1934) 1. 6)

The group's design for the State Printing House was simple and yet impressive: on an irregular polygonal base (a low "breitfuss"), a "U" shaped volume was placed. The height of the planned building was seven floors (basement, ground floor, four storeys above the ground floor and an attic), placed along the longer axis of a rectangular site (*Figs 3, 4*). The largest part of the building was occupied by the workshops in the central tract, illuminated from the East and the West because of the thickness of this volume and the nature of the work. From the South and the North, the central volume was flanked by two short administration tracts. In the basement and almost the whole ground floor, a service courtyard was planned. On the ground floor, there were also main entrances for the workers and the visitors, wardrobes, and shops. A large terrace, two floors above the ground, was intended for workers' rest. In the four stories above the ground floor, there was the manager's flat, graphic school, spaces for rest and a dining room for the workers. In the attic, withdrawn from the main façade with a large terrace, flats for the staff were placed.

A simple, functional scheme was achieved for a complex building by allowing uninterrupted functioning of many offices, various other contents and fluid movement of many users. The group planned a concrete frame and a non-load bearing façade with a glass curtain-wall system, which gave the proposal a modern, minimal and monumental volume. The edifice was designed symmetrically; the main entrances were placed laterally as a recognisable feature in the authors' design solutions.<sup>38</sup>

Despite the lack of experience with this building typology, various competition proposals by Brašovani, Ibler, Horvat and Planić, and the KKK Group for the State Printing House in Belgrade, with the concrete frame and a non-load bearing façade, show a surprising reach. They looked up to the industrial structures built in Europe a little earlier: the legendary FIAT Lignotto (1920–1923) in Turin by Giacomo Matte'-Trucco; a five-storey reinforced concrete car factory with an elliptical ramp on the roof as a race test track and innovative vertical line production.<sup>39</sup> Another exemplary project was the Coffee and Tobacco Van Nelle Factory (1925–1931) in Rotterdam by Johannes Brinkman, Leendert van der Vlugt and Mart Stam with the reinforced concrete mushroom-columned structure shown through the glass façade.

<sup>38</sup> See more about the Group's design characteristics: Matan et al. 2018. 84–97.

<sup>39</sup> Iori 2011. 133–137.

Le Corbusier wrote about it in 1931: "Everything is open to the outside. And this is of enormous significance to all those who are working on all eight floors inside..."<sup>40</sup> A boldly glazed façade in the group's project, at a time when such use of glass surfaces was still experimental in the Kingdom of Yugoslavia, delighted the Slovenian review "Arhitektura", which published only their work from this competition, referring to them as an "entrepreneurial young trio". In the daily paper, they referred to them as "well-known Zagreb architects".<sup>41</sup>

Only a few industrial complexes were built in Croatia in 1930s, which include the architect Vlado Potočnjak's aluminium factory in Lozovac near Šibenik, and the German architect Walter Frese's City meat packing plant and a cattle market in Zagreb ("*Klaonice i stočnu tržnicu Grada Zagreba*").<sup>42</sup> Potočnjak had a contemporary factory concept, but gave his design a local character using local materials and a pitched roof. The architect Frese had a conceptually and technically modern solution, but had to add a pitched roof on request of the local authorities. In comparison to these examples, the group's project excels as consistent in its uncompromised modernity (at least at this project stage). A very important contemporaneous industrial complex in Croatia was the Bata company town in Borvo, Vukovar on the east of Croatia, whose building started in 1931 and lasted until 1946. It was modelled on the previously built company's settlement in Zlin (former Czechoslovakia) by the company's studio architects Antonín Vitek and František Lydie Gahú. The town had factories, public spaces and housing. The complex had a recognisable Bata design all over Europe, modern and functional with a modest span prefabricated concrete skeletal system, brick and glass walls, and a maximum five floors height.<sup>43</sup>

The site of the building was changed after the competition and the first prize proposal was adapted to the new context.<sup>44</sup>

## HOTEL OF THE YUGOSLAV SHAREHOLDERS' SOCIETY IN SPLIT, 1933

Various studies and projects were carried out for hotels in the coastal part of Croatia from the beginning of the 20<sup>th</sup> century; this was also the case for the city of Split in the south of the country. Considering the competitors' response to this competition, it was one of the biggest organised in Split between the two World Wars. The first prize was not awarded, the architect Vojin Simeonović won the second, and the group won the third prize. Among four purchasing prizes was a well-known team from Split: H. Baldasar with E. Ciciliani.<sup>45</sup> Some of the most prominent Croatian

<sup>40</sup> Frampton 2007. 134–135; Ilijevski 2014. 259–276.

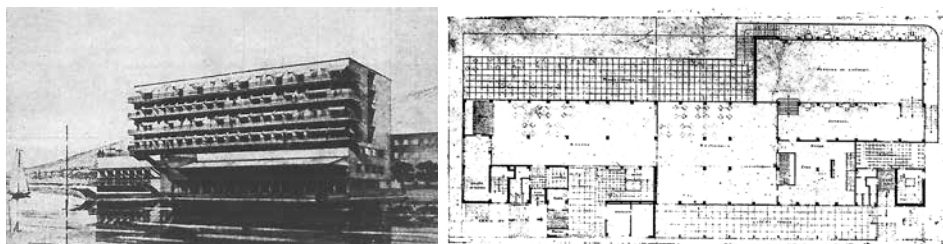
<sup>41</sup> Kiverov et al. 1933. 145–147; 1933. 5.

<sup>42</sup> Premierl 1990. 94–97; Frese 1932. 53–57.

<sup>43</sup> Ambruš 2016.

<sup>44</sup> According to the Brašovan's project, reinforced structural concrete was used for the first time in Serbia in this building, built from 1937–1940 (Ilijevski 2014. 259–276).

<sup>45</sup> The Group's proposal code was "2071.-H.R." (*Građevinski vjesnik* 1933. 157; Tušek 1994. 76–79).



**Figure 5.** The perspective drawing of the Hotel of the Yugoslav Shareholders' Society in Split (Kiverov et al. 1933. 145–147) – **Figure 6.** Plan of the ground floor of the Hotel of the Yugoslav Shareholders' Society in Split (Kiverov et al. 1933. 145–147)

architects also participated in this competition: Drago Ibler, Zoja and Selimir Dumengjić, Lavoslav Horvat, and Lovro Perković, among others.<sup>46</sup>

The competition rules requested very detailed plans for the building (twice as large as the usual 1:200). The location for the new 150-room hotel was on the Split west coast (named at the time *Obala vojvode Stipe*), on a plot surrounded by the sea from three sides and exposed to strong winds. The programme for the hotel was vague, which evoked very different interpretations from the competitors. Besides the usual hotel sections (entertaining, service, administrative), there was a requirement for flats for the employees and construction in two or three phases.<sup>47</sup>

The group proposed a prismatic seven-floor volume with a modern concrete skeletal system allowing the hotel to be oriented to all four sides of the world. The horizontal axis of the building was emphasised by longitudinal balconies, which acted as sun protection for the lower floors (*Figs 5, 6*). The hotel was functionally divided per floor: service spaces, a pool and garages were placed on the “low ground floor” (as called by the authors), public spaces, administration and the manager’s apartment on the “upper ground floor” and mezzanine, while the accommodation was organised on the other four floors.<sup>48</sup> The vertical communication in the building was solved through six staircases. The “upper ground floor” was opened with a terrace above the sea on the southeast and on the park side to the northwest; the hotel was accessible from both sides. The four-floor double-tract accommodation section had 17 single-bedded rooms, ten double-bedded rooms, four bathrooms per floor and corner apartments with a possibility of enlargement by one more room. The room orientation was to the southeast (with sun protection), the northwest, to avoid strong winter winds and unpleasant west sun exposure during summer. The design of the hotel was minimalist and elegant with effective functional solutions allowing the use of public spaces separated from other hotel services and the possibility of an apartment’s enlargement.

<sup>46</sup> Tušek 1994. 76–79.

<sup>47</sup> Kiverov et al. 1933. 145–147; Paladino 2006. 167–175; Paladino 2011. 191–226; Barišić Marenčić 2007. 190–198.

<sup>48</sup> Kiverov et al. 1933. 145–147.

The authors remained faithful to their basic design principles, which led them to achieve substantial success in competitions.

The emphasised horizontality of the building volume was the authors' response to the horizon of the Adriatic Sea, ignoring the local traditional architecture, but expressing modernity in pure forms. This minimalistic concept was often repeated (in a far more expressive manner) on the other side of the Adriatic, in the works of their Italian colleagues for the regime's summer colonies (built for healthcare at first, and later on as resorts for large company's workers). The rationalism and the symbols of the regimes' architecture became more abstract in front of the sea horizon, and the solutions on both sides of the Adriatic often seem akin in its accentuated horizontality. Such concepts can be seen in Giuseppe Vaccaro's AGIP Summer Colonies in Cesenatico built in 1937, or E. G. Faludi's Montecatini Summer Colony (1936–1939) in Milano Marittima (especially the dormitory building).<sup>49</sup>

This motif can also be found in another modern hotel in Croatia built in the first half of the 1930s, Hotel Grand on the island Lopud by architect N. Dobrović.

After the end of the competition procedure, the architect Josip Kodl from Split received the task creating a "compilation project" from two awarded competition proposals for the same plot: today's hotel "Ambassador" was built from 1934–1937.<sup>50</sup>

#### YUGOSLAV TEACHER SOCIETY IN NOVI SAD, 1934

Even though the authors considered this competition uninteresting and prizes too modest, they participated and provided two competition solutions to suggest an improvement to the competition programme. This small competition was held by the Yugoslav Teacher Association. According to the programme, the five-story building was to be built into the pre-existing urban block as an interpolation and had to contain a shelter for the children in the semi-basement, administration on the ground floor, apartments for rent on the first two floors, and teacher association in the attic.

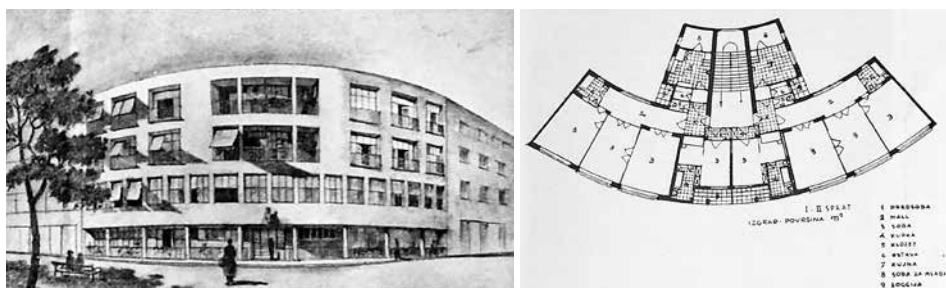
The first prize was not awarded; the group shared the second prize in this competition with Zoja and Selimir Dumengjić. Three third prizes were given to architects: J. Ranković with R. Tatić, B. Popović (all from Serbia) and to E. Mikloš from Zagreb. Other well-known competitors were: Lovro Perković with B. Pervan.<sup>51</sup>

One of the group's proposals completely respected the programme, the other (awarded) provided room for improvement, with a more economical and hygienic solution. They placed the shelter for the children in the attic, the administration on the ground floor to facilitate access from the street and housing on the first two floors. The shelter in the attic was divided into separate female and male spaces. The vertical communication was solved through one central staircase in the courtyard of the

<sup>49</sup> Polli 2013; Milani, 2002.

<sup>50</sup> The jury suggested a compilation from Simeonović's and Baldasar-Ciciliani's projects. (Tušek 1994, 76–79).

<sup>51</sup> The Group's proposal code was "U.D.N.S." (*Gradevinski vjesnik* 1934, 93).



**Figure 7.** The perspective drawing of the main façade of the Yugoslav Teacher Society (Kiverov et al. 1934. 81–84) – **Figure 8.** Plan of the first and second floor of the Yugoslav Teacher Society in Novi Sad (Kiverov et al. 1934. 81–84)

urban block. The façade of the building was designed using the authors' recognisable three-part division: indenting the ground floor in relation to the other stories, while the other three floors were divided into a row of windows on the first floor, dotted larger ones on the smooth stucco structure of the building and the central part emphasised with decorative loggias in studio apartments. Despite small volume dimensions, a certain monumentality of the building was obtained due to the façade solution; emphasis of the central part was obtained with two rows of loggias on the last two floors giving a recognisable distinctiveness to the proposal (*Figs 7, 8*).<sup>52</sup>

The rounded corner building solution was used by the group in two other buildings of the same typology: the Chamber of Labour in Zagreb and the Public Labour Exchange in Karlovac.<sup>53</sup> The corner emphasis, so beloved in interpolation solutions by the architects of the modern period in Zagreb, was omitted by the group in this case.<sup>54</sup> It was used though in Zoja and Selimir Dumengjić's proposal (with the elevation of the flat roof parapet wall) on a similar curved volume giving the two solutions a certain similarity.<sup>55</sup>

Even though the studied project is modest and small compared to Giuseppe Vaccaro's post office in Naples, the solution of the rounded corner façade problem seems to impose similar doubts in every modern author. Vaccaro started designing the post office in 1928 (when the competition was announced), and until the construction of the building in 1936, providing five main façade solutions. The development of these plans shows the chronology of the development of style in Italy, from the eclectic (reserved for administrative buildings at the time) to modern. In Vaccaro's designs, with every new façade solution, the emphasis of the central axis becomes more discrete and the window solutions more abstract, improving with every new attempt; additionally, he addresses the solution of stone façade placement on a con-

<sup>52</sup> Matan et al. 2018. 84–97.

<sup>53</sup> Matan et al. 2018. 84–97.

<sup>54</sup> Matan 2010.

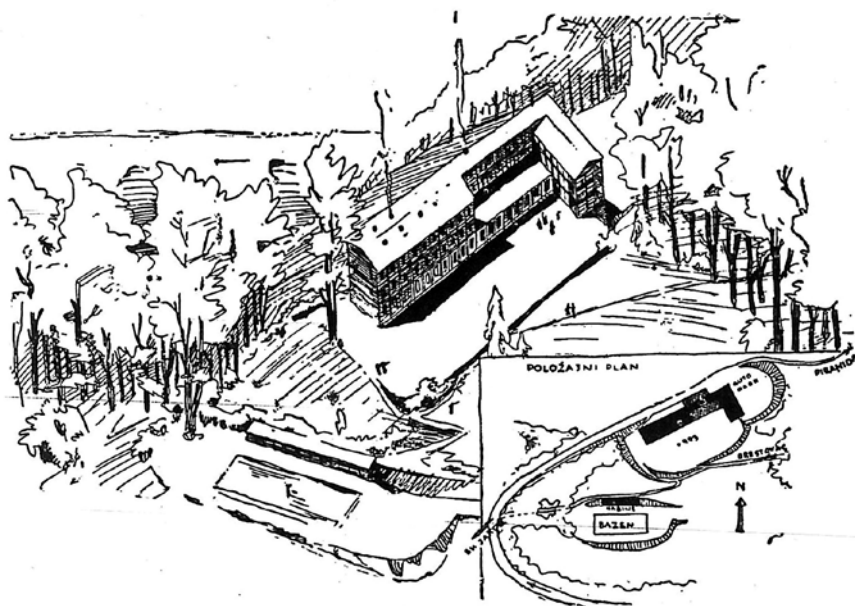
<sup>55</sup> Zagreb City Museum, Archive of the architect Zoja Dumengjić.

crete building.<sup>56</sup> The abstraction of the façade solution is certainly easier to achieve in a purely administrative building. In the group's projects, the dominant demands of the residential function are unavoidable and still skilfully solved instead of the modest plaster façade.

Immediately after the end of the competition procedure, a Serbian architect Danilo Kačanski was hired (it is not clear if he participated in the competition) to develop the project on a different angled location with a slightly changed programme.<sup>57</sup> The built building evokes the competition solutions of the second-ranked authors.

### THE LODGE FOR THE CROATIAN ALPINIST SOCIETY, ON "SLJEME" MOUNTAIN PEAK NEAR ZAGREB, 1934

After the fire destroyed the existing lodge, the Croatian Alpinist Society required a proposal for a new building, reserved only for the members of the society, in a local competition. It was a two-stage competition for the structure planned in two stages. Once again, the first prize was not awarded; the KKK Group won the second prize despite strong competition: Josip Pičman and Zoja with Selimir Dumengjić



**Figure 9.** The perspective drawing of The Lodge for the Croatian Alpinist Society on "Sljeme" mountain peak near Zagreb (*Novosti* 19.08.1934. 7)

<sup>56</sup> Poretti 2008.

<sup>57</sup> Draganić et al. 2018. 46.



won two third prizes, and four other proposals were purchased from Vlado Antolić, Josip Seissel and Milovan Kovačević and an unknown competitor. Other known architects participating in this competition were Stjepan Planić with Lavoslav Horvat. The authors invited for the second stage of the competition, besides the group, were Pićman, Kovačević and an unknown author. The competition programme for the Croatian Alpinist Society required a proposal with two sections: one for hotel guests and the other for mountaineers. The programme required two dining rooms, three types of rooms and a common bathroom on each floor. Also included was a huge terrace, an open pool and a parking lot.<sup>58</sup>

Pavilion solutions for the competition programme, proposed by some entries, were probably more appropriate for the delicate nature of *Sljeme* mountain peak near Zagreb, but the solution in one larger building provided short and warm connections from accommodation to dining rooms and was also preferred by the KKK Group. They proposed a three-storey building in the shape of the letter “L” with a pent roof and reinforced concrete structure because of the severe fire protection regulation (praised by the jury) (Fig. 9). The building orientation (positioned with a longer building axis to the southeast towards the Sava River valley and the northwest towards the Croatian region of Zagorje) exploits the potential of the site to the best possible manner. An easy building approach and opening of the building to the best views was achieved. The vehicular access was planned to the north of the building, while to the southeast, a pool and a meadow were located. The large one-floor dining room broke the massiveness of the building. The accommodation was divided into two units (for hotel guests and alpinists); the more modest accommodation for mountaineers had three types of rooms (eight-beds, four-beds and single-bedded rooms) with one bathroom per floor. Hotel accommodation had “the usual” comfort (as it was reported in the newspapers).<sup>59</sup> The façade of the lodge was covered with natural, local materials: wood and mountain *Sljeme* stone, together with a pitched roof, made it fit perfectly into the surroundings; a trace of modernity in this project is the functional solution to the reinforced concrete structure.<sup>60</sup>

Similar principals and modern solutions of this typology can be also found in the neighbourhood: a contemporary Hungarian example of a mountain hotel by architect László Miskolczy (1927–1932) shows minimalist modern design and structural solutions like those applied in the Lodge for the Croatian Alpinist Society by the group. A bolder example of modernity in hotel design in the mountains is the Hotel Mecsek in Pécs by István Nyiri and László Lauber, adapting to the slope of the mountain with its curved volume, minimalist modern design, contemporary structure and a flat roof, but blending into the surroundings with a stone façade.<sup>61</sup> With a successfully merged modern living and building tradition, the Berghaus (Lodge), by Krekić’s Austrian

<sup>58</sup> The Group’s proposal code was “HAA-PAVESI” (Paladino 2006. 167–175).

<sup>59</sup> *Novosti* 1934. 7.

<sup>60</sup> *Architettura* 1934. 123–124.

<sup>61</sup> *Architettura* 1934. 123–124; Bolla 2016. 40.

mentor Clemens Holzmeister (a conservative modernist), built on the Hahnenkamm mountain, Kitzbühel (1929–1930), with a concrete base, wooden upper floors and a pitched roof, may possibly have had an influence on the group's project.<sup>62</sup>

Another example of this typology was constructed on the same mountain between 1932–1935, the alpinist Lodge “Runolist”, with a frame construction and reinforced concrete and wooden floors, and signed by Šterk, another mentor of the group.<sup>63</sup>

A year later, a new project was commissioned and built for the site from architect S. Planić with the collaboration of the architect L. Horvat.<sup>64</sup> Their lodge had a concrete structure and the first “Y” shaped plan built in Croatia (achieving great success in professional circles), the ground floor of the building was covered with stone and the rest of the building in wood.

### ETHNOGRAPHIC MUSEUM IN BEOGRAD, 1938

This competition was a rare occasion for architects of the Kingdom to work on museum architecture since museums were rarely built. The competition was held by the Ministry of Education. The competition programme for the Ethnographic Museum in Belgrade (the site was located in what at the time was Miloša Velikog Street) required a six-floor building with technical departments, collections, employee flats, service spaces, exhibition halls and administration, and a war shelter.<sup>65</sup>

The first prize was not awarded in this competition; the group shared second place with architects Mate Baylon and Emanuel Šamanek from Sarajevo.<sup>66</sup> The third prize was given to D. M. Gudović from Belgrade. Seven proposals were repurchased from unknown authors. A well-known architect Marijan Haberle also participated in this competition.<sup>67</sup>

The group's concept was developed around a central longitudinal courtyard for exhibitions transited by all the museum visitors (solution praised by the jury), and two smaller courtyards as a lighting solution and approach for service spaces. The structure was planned as a concrete skeleton. The steepness of the site meant that they needed to provide a solution for the collections and services through two levels of semi-basements. The ground floor contained administration (completely separated from the museum and the visitors), and a recognisable multifunctional solution from the creators, that of a great hall placed between two waiting rooms, intended as foyers in case of assemblies. Exhibition halls were placed on the first three floors and determined the visitor's one-way movement direction through the building. A complex system of

<sup>62</sup> Postiglione 2004. 172–175.

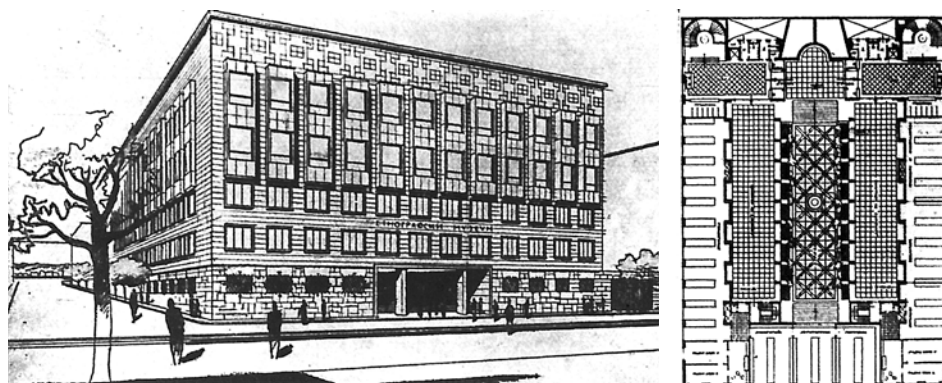
<sup>63</sup> Premierl 1990. 92–93; Šterk 1939. 146

<sup>64</sup> Paladino 2006. 167–175.

<sup>65</sup> Ibragimova 2016; 1938. 129–131.

<sup>66</sup> The Group's proposal code was “Atrij” (*Građevinski vjesnik* 1938. 129–131).

<sup>67</sup> Premierl 1990.



**Figure 10.** The perspective drawing of the Ethnographic Museum in Belgrade (*Građevinski vjesnik* VII (1938) 9. 129–131) – **Figure 11.** The plan of the upper semi basement of the Ethnographic Museum in Belgrade (*Građevinski vjesnik* VII (1938) 9. 129–131)

staircases and entrances-exits allowed for various departments of the museum and the residential part of the building to function separately from the visitors. The jury praised the concept of the project, its functional solution and the lighting. The massive volume of the building with an emphasised entrance on the main façade does not anticipate the design concept and the inner courts or the purpose of the museum. The façade also has a recognisable solution, a three-part division: indenting the ground floor in relation to other storeys and emphasising it with a different surface (stone – skilfully extended to the courtyard entrance), with dotted smaller windows. The rest of the monumental façade was divided with dotted windows on the first floor, with vertical, thin bay windows emphasising the upper floors (*Figs 10, 11*).<sup>68</sup>

As complex buildings with various contents and a large number of visitors, museums need a simple functional organisation of space allowing its departments to work simultaneously; a feature notable in the group's proposal and one of the main assets in their work. In its architectural expression, this competition proposal evokes the one that the architects Kiverov and Zoja Nepenina (later Dumengjić) provided for the State Mortgage Bank of the Kingdom of Serbs, Croats and Slovenians in 1928,<sup>69</sup> which suggests a deeper influence from Kiverov in this proposal.

Three longitudinal tracts closed by shorter ones and zenith natural lighting is a solution used in various other buildings. For example, previously in the Pergamon Museum in Germany (1906–1930) by Alfred Messel and Ludwig Hoffman; and contemporarily, in the Art and congress house by Armin Meili (1931–1933) in Switzerland in which the functional solution was also articulated in volume composition.<sup>70</sup> The building design of Krekić's mentor, Celemens Holzmeister of the

<sup>68</sup> Matan et al. 2018. 84–97.

<sup>69</sup> Zagreb City Museum, Archive of the architect Zoja Dumengjić.

<sup>70</sup> Blisel 2012, Schwander 1993.

Broadcasting House in Vienna (with Heinrich Schmid, and Hermann Aichinger, 1935–1937), in its entrance solution, with a dotted windows façade, elegance and monumentality evoke the group's museum design, even though built later.<sup>71</sup>

The home of the Croatian Association of Artists was a rare example of this building's typology built in the 1930s in Zagreb: the anthological pavilion by the sculptor Ivan Maeštrović and architects H. Bilinić, Z. Kavurić and I. Zemljak. However, its annular plan, a central reinforced concrete and brick glass cupola (19 m span,) and classical design characteristics make it impossible for comparison.<sup>72</sup>

## DISCUSSION

The group's architectural design style was defined as expressionist and functionalist in former researches.<sup>73</sup> The analyses of their available competition work expose them as assumingly depending on the influence of a single member's talent in projects. The possible expressionist influence on their work may have come from Šterk (a Czech cubist), their mentor and later collaborator. Modern movement influences in Croatia came mainly from Czechoslovakia, Austria and Germany where the first generations of modern architects were formed. One of them was also Krekić, who studied in Germany and Austria and was the apprentice in his mentor's (Professor Clemens Holzmeister, a conservative modernist) architectural office in Vienna for two years (1920–1930) before coming to Zagreb. He worked on large scale public buildings projects for Turkey (not clear on which buildings), with Holzmeister's buildings in Ankara (Presidential Palace, Central Bank of the Republic of Turkey and Stamp museum) showing the same affinity for minimalism, elegance and a monumentality which characterise the group's projects.<sup>74</sup> Other possible influences on their work came from all over Europe through professional magazines, exhibitions, and maybe personal contacts for the Russian Kiverov who collaborated with his compatriots before joining the group; although, currently there are no glimpses of it in available work.

In their writings on competition entries, the authors emphasised the dedication to functionality and the economic aspects of competition projects, which resulted in a flexibility of solutions and minimalist design of buildings. In fact, no difference in approach can be found in a comparison of their competition body of work and the built buildings. Their design is consistent with four theses written by well-known Croatian architect Ernest Weissmann in 1930 about the new relation to form in modern architecture. He wrote that the evolution of human society changes function, the development of techniques changes the way we built, the architecture of different epochs brings different forms, which all result in a simple equation: function + tech-

<sup>71</sup> Achleitner 1980. 149.

<sup>72</sup> Ivančević 1988. 46–75.

<sup>73</sup> Premerl 1990; Ćorak 2000; Kahle 2017. 256–271.

<sup>74</sup> Ajzinberg 2013. 4–6.

nique = form.<sup>75</sup> The group described their approach to competing as “real and not paper projects”, referring to clients’ actual needs and building realisation, rather than focusing on the visual effect possibly exerted by the competition proposal on the panel of judges. The rationality of project solutions, often imposed as a competition rule, was natural for the trio. If a critical approach to the competition programme was required, the authors submitted two different entries to provide the jury with a more effective and adequate solution.

The competition body of work of the group was composed of different building typologies: from the most complex administrative and industrial examples to small settlement urban planning solutions, sacral buildings, tourism and housing solutions. This rich part of their professional development would not have been possible without competitions since public buildings projects were usually commissioned directly from professionals employed by a region’s or town’s institutions.

It is assumed that out of 20 instances of participation in competitions (individually and jointly) and 14 prizes of which six first (or second without first prize granted in the competition) were awarded to the group, only one was realised that resulted from competition participation; the villa for Dr Mihail Glušćević by architect Korka. Problematic competition procedures in the 1930s, were polemicised by the authors in the journal *Grđevinski vjesnik*, in 1934. The trio described the participation in competitions as “soul food for many unemployed architects” of the time, irrespective of modest awards.<sup>76</sup> Participation in competitions provided opportunities for promotion through exhibitions of competition proposals, public discussions and daily papers’ articles, but only for the best ranking authors (first three prizes), even those who won a purchase prize often remained anonymous. First prize was seldom granted in that period, which enabled the tendering individual or organisation to assign the realisation of the building to whomever they pleased. The authors did not hide their disappointment with practices such as the purchase of the authorship in the competing procedure, combining several different proposals into one final project and engaging architects for the development of other authors’ competition proposals.

Experimentation with reinforced concrete was a key to building advancement, and a lack of possibility to experiment (also imposed by conservative laws) meant a backwardness in structural solutions. Industrial complexes like the FIAT Lignotto in Turin with its reinforced concrete elliptical ramp on the roof as a race test track, while the Coffee and Tobacco van Nelle Factory in Rotterdam with the reinforced concrete mushroom-columned structure liberating the whole façade belonged to the 1920s. The European builders were a whole decade ahead and had significant influence on their surroundings. A concrete frame and a non-load bearing façade with glass-wall system used in the group’s project for the State Printing House was very advanced for the Kingdom of Yugoslavia at the time and admired in professional circles as well as by the public.

<sup>75</sup> Premerl 1990. 155.

<sup>76</sup> For more about 1930’s competition procedures and scandals see: Bjažić Klarin 2005. 41–51.; Bjažić Klarin 2006. 64–73, Ibragimova 2016.

In hotel architecture, we find similar responses to similar stimulus on both sides of the Adriatic, their Italian peers also ignored the local tradition and created modern minimalistic structures with emphasised horizontality (AGIP and Montecatini summer colonies on the Italian Adriatic coast). However, when it comes to tourism architecture in the mountains, the approach is different: it embraces the local tradition (pitched roof and local materials) and interprets it, applying modern reinforced concrete structures. Such solutions were also applied in Hungarian and Austrian Lodges (for example the Berghaus on the mountain Hahnenkamm in Kitzbühel by Krekić's mentor Clemens Holzmeister).

The group's functional solution for the museum was common, used previously in the Pergamon Museum in Germany and contemporarily in the Art and Congress House in Switzerland. Their design of the museum evokes Holzmeister's Broadcasting House in Vienna, even though built later.

The solution of the rounded corner façade of the Yugoslav Teacher Society in comparison to a similar, but much larger and important post office in Naples, shows a parallel approach to rounded corner façade solutions, for modernist architects all over Europe.

While the printing house design evoked the elegance in volume composition of Mies van der Rohe's project for the Reichsbank in Berlin (built contemporarily), the design of other analysed proposals lacks the skilful touch of Šterk's hand in volume composition, notable in their built anthological buildings.<sup>77</sup> In five analysed proposals, the architectural expression alters, assumingly due to various typologies requests and stronger influences of single members. From pure functionality in the printing house design for which Korka's influence is assumed (crude volume articulation of his first proposal for the Palace of worker's institutions, *Fig. 1*), to the more expressive design of the Ethnographic Museum (*Fig. 10*) for which Krekić's and Kiverov's influence is assumed (resemblance with earlier work for the State Mortgage Bank of the Kingdom of Serbs, Croats and Slovenians). Finally, the consistency in their concepts and approach to every assignment makes their available competition body of work admirable.

Some of the design solutions of the trio can be tracked throughout their projects, like the volume monumentality even in small-sized buildings, the use of the flat roof (seldom pitched), the façade solutions (horizontal ribbon frames in combination with dotted windows; the use of brick stone or glass to emphasise the basis of the building) and the symmetry among others. The brilliant functional schemes in complex buildings with large numbers of users managed to achieve flexibility and multi-functionality of spaces as in the great hall of the Ethnographic Museum and the hotel.<sup>78</sup>

<sup>77</sup> Matan et al. 2018. 84–97.

<sup>78</sup> Matan et al. 2018. 84–97.

## CONCLUSION

The group's competition body of work remained unbuilt and the documentation lost in the turbulent period of WWII. All we have left are published plans in professional magazines and newspapers. One of the reasons the trio was forgotten, other than the relocation from Zagreb, is probably that they also did not agree with Tito's regime after WWII, which caused them problems.<sup>79</sup> The biggest influence of their competition body of work was probably in professional circles, among Serbian, Croatian and Slovenian colleagues who participated and followed the competitions' activities of their time.

The valorisation of the KKK Group's competition body of work is fated to remain sketchy due to the lack of systematic research of most important competitions in the 1930s, and the lack of documentation: out of 12 collective competition proposals, only five projects are partially available. The impact of their competition body of work can be appraised as important on the level of the Kingdom of Yugoslavia where they competed; according to competition results, their work was often a little ahead of their peers. In 12 instances of joint participation, they won nine prizes and were better than approximately 300 other proposals produced by groups of eminent architects of the time from the whole Kingdom; this gave them the attention of the professional magazines and daily papers. The group participated in shaping the modern movement in Croatia.

The comparison of their work to examples of contemporaneous Croatian architecture shows state of the art architecture concepts. With their functionalist approach to solving problems, despite a delay of an underdeveloped surrounding, they aimed to peer with their European contemporaries in functional and technical solutions.

To get the whole picture of their body of work, and to understand the design particularities of the individual members, housing projects of the trio should be studied as well as the individual work carried out after WWII (assuming the discovery of new documentation).<sup>80</sup>

The architects' body of work resulting from competitions is often the most innovative and interesting, yet mainly unrealised. The competition projects at times became part of architectural history (like the State Printing House competition proposal), but mainly ended up neglected and lost, which was the case of the main part of the group's body of work linked to competitions. The valorisation of this intangible cultural heritage is a contribution to the preservation of the work of the KKK Group and three extraordinary authors, which marked the modern Croatian and regional architecture.

<sup>79</sup> Ajziberg Archive in Serbia. Information kindly written to me by Mr. Ajziberg.

<sup>80</sup> Kiverov worked in Germany and Africa; some of his hotel projects for Ethiopia are preserved. Andrey Redlich Private Archives, Germany.

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## A KKK CSOPORT ÉPÍTÉSZETI TERVPÁLYÁZATAI A JUGOSZLÁV KIRÁLYSÁGBAN (1931–1939)

### Összefoglaló

Jovan Korka, Đorđe Krekić and Georg Kiverov a horvát modern építészet fontos szereplői. A három építész 1931–1939 között Zágrábban dolgozott együtt a KKK Csoportban (a név vezetékeveikből származik). Ebben az időszakban a csoport lenyűgöző munkát végzett: Horvátországban és a régióban köz- és lakóépületeket építettek, briliáns tervezési megoldásokkal vettek részt tervpályázatokon a Jugoszláv Királyságban, kiállításokat szerveztek és több szakmai cikket publikáltak. Szakmai tevékenységük a kezdetétől, az 1920-as évek második felétől híressé tette őket Horvátország fővárosában, de a második világháború után feledésbe merültek. Nevük szinte minden, a modern horvát építészetéről szóló összeállításban vagy építészeti ismertetésben megjelent, köszönhetően azon épületeknek, melyek a tagok tervpályázatokon elért eredményeiként valósultak meg, mégis hosszú ideig nagyon keveset lehetett tudni a szerzőkről, különösen a KKK Csoportról. Munkájukat szisztematikusan csak a közelmúltban tanulmányozzák.

Ez a cikk a tervpályázati projektekkel foglalkozik, a csoport még ismeretlen munkáival, amelyek kulcsfontosságú szerepet játszottak sikerükben. A ma ismert húsz versenyen, amelyen a mindössze nyolcéves együttműködésük során részt vettek, a csoportot 14 alkalommal díjazták (egyéni és együttesen), gyakran az első három díj egyikével. Tervpályázati részvételeik kronológiai áttekintése és az öt elérhető közös pályamunka részletesebb elemzése készült most el, ami hozzájárul a Jugoszláv Királyság és különösen Horvátország modern építészetének e fontos, mégis elfeledett szereplői munkásságának értékeléséhez.

**Kulcsszavak:** Đorđe Krekić, Georg Kiverov, Jovan Korka, horvát modern építészet, tervpályázatok, Horvátország, Jugoszláv Királyság, KKK Csoport