CIAM Network Visualisation – Detecting Ideological Ruptures in the CIAM Discourse

Bjažić Klarin, Tamara; Bojić, Nikola

Source / Izvornik: **Modern and Contemporary Artists' Networks. An Inquiry into Digital History of Art and Architecture, 2018, 64 - 82**

Book chapter / Poglavlje u knjizi

Publication status / Verzija rada: **Published version / Objavljena verzija rada (izdavačev PDF)**

https://doi.org/10.31664/9789537875596.04

Permanent link / Trajna poveznica: https://urn.nsk.hr/urn:nbn:hr:254:143161

Rights / Prava: In copyright / Zaštićeno autorskim pravom.

Download date / Datum preuzimanja: **2024-04-23**

INSTITUT ZA POVIJEST UMJETNOSTI

Repository / Repozitorij:

PODEST - Institute of Art History Repository

dabar
DIGITALNI AKADEMSKI ARHIVI I REPOZITORIJI

CIAM Network Visualisation – Detecting Ideological Ruptures in the CIAM Discourse

DOI: https://doi.org/10.31664/9789537875596.04

Tamara Bjažić Klarin
Nikola Bojić

Active between 1928 and 1959, the International Congress of Modern Architecture (CIAM - *Congrès Internationaux d'Architecture Moderne*) was a leading forum on modern architecture and urbanism, playing a key role in their affirmation and dissemination both before and after the Second World War. Over the course of ten thematically focused congresses, several executive committee and council sessions, and numerous meetings, CIAM evolved as an extensive international network of architects. The logic of its organisation combined two opposing models, which were typical for architecture and fine arts of the 19th and 20th century – a model of artistic/architectural groups that were founded on ideologically and formally close standpoints, and a model of professional association. Whereas the first model of organisation is often based on informal, non-hierarchical relations, the second model is often characterised by a centralised decision-making process. As we argue in this paper, the frictions of these essentially different organisational concepts, are one of the main causes of discursive ruptures that lie behind the turbulent evolution and finally the end of CIAM. Although gathered around a common idea of modern architecture, CIAM members did not have the possibility of independent creative action and expression of personal stances, nor any real opportunity to participate in the overall decision-making. Aspiring to overcome academism and secure a predominant position of new architecture within an official public discourse, CIAM followed a strictly defined hierarchical structure, similar to the organisation of professional associations.

The second, not less significant reason of discursive ruptures were the differences in the understanding of architecture's social role and the associated political views of CIAM's members.[104] From the perspective of groups close to the left political spectrum, the role of architecture surpassed the technical and formal aspects of the profession and delved into the domain of social and political action. This view was opposed to the idea of architecture as a technical discipline with no predefined ideological position, which can easily align with different political standpoints.[105] Ideological conflicts were also the conflicts between generations that were advocating different models of CIAM's organisation and action. Therefore, there was the "revolutionary youth" yearning for democracy on one side, and older generation prone to opportunism on the other. The latter primarily refers to Le Corbusier, CIAM's secretary Sigfried Giedion and Walter Gropius, who were in favour of an autocratic type of management of CIAM.

Despite different standpoints and frequent conflicts, CIAM was perceived as a monolithic organisation. Along with Le Corbusier, its co-founder and ideologist, CIAM became the synonym of modern architecture rooted in the canonical concepts of "a functional city" and "five points of modern architecture". As pointed out by Kenneth Frampton, the image of CIAM began to be perceived differently because of the research and publications

104 They belonged to different political orientations – radical left, centre and right. While the Nazis were the opponents of Neues Bauen, which was deemed a communist and Jewish creation, the Italian group was in its favour.

105 The positions assumed significantly affected the approach to planning, building and design. The subject of controversy was the level of typifying, standardisation and prefabrication. Whilst the first group saw these as tools, the other understood them as a necessity.

by Ulrich Conrads and Eric Mumford, the author of the first comprehensive overview of CIAM's work, *The CIAM Discourse on Urbanism, 1928-1960*, which provided an insight into all its congresses, working bodies and participants.[106] This book provides an insight into the role of each member of CIAM in the tailoring of its history and thus – directly or indirectly – in the tailoring of the history of architecture and urban planning of the 20th century. In order to get a comprehensive view of the pre-war history of CIAM, it is equally important to look at the research undertaken within the project *Atlas of the Functional City: CIAM 4 and Comparative Urban Analysis* and to explore the research on Cornelis van Eesteren carried out by Kees Somer, while for the history of Team 10, Alison Smithson's *Team 10 Meetings 1953-1984* and the study of a group of authors *Team 10: In Search of a Utopia of the Present 1953-1981* were crucial.[107] Based on the abovementioned sources, as well as on the research of archival materials from the Institut für Geschichte und Theorie der Architektur (gta) ETH in Zürich, the Fondation Le Corbusier in Paris and Het Nieuwe

106 Foreword by Kenneth Frampton in: Eric Mumford: The CIAM discourse on urbanism, 1928–1960 (Cambridge, Mass.: MIT Press, 2000).

107 Kees Somer: The Functional City. The CIAM and Cornelis van Eesteren, 1928–1960 (Rotterdam: nai010 publishers, 2007); Evelin van Es et al., eds., Atlas of Functional City. CIAM 4 and Comparative Urban Analysis (Zürich & Bussum: gta Verlag & Uitgeverij THOTH, 2014); Alison Smithson, ed., Team 10 Meetings 1953-1984 (Delft: Delft University of Technology, Faculty of Architecture, 1991); Max Risselada & Dirk van den Heuvel, eds., Team 10: In Search of a Utopia of the Present 1953-1981 (Rotterdam: nai010 publishers, 2006).

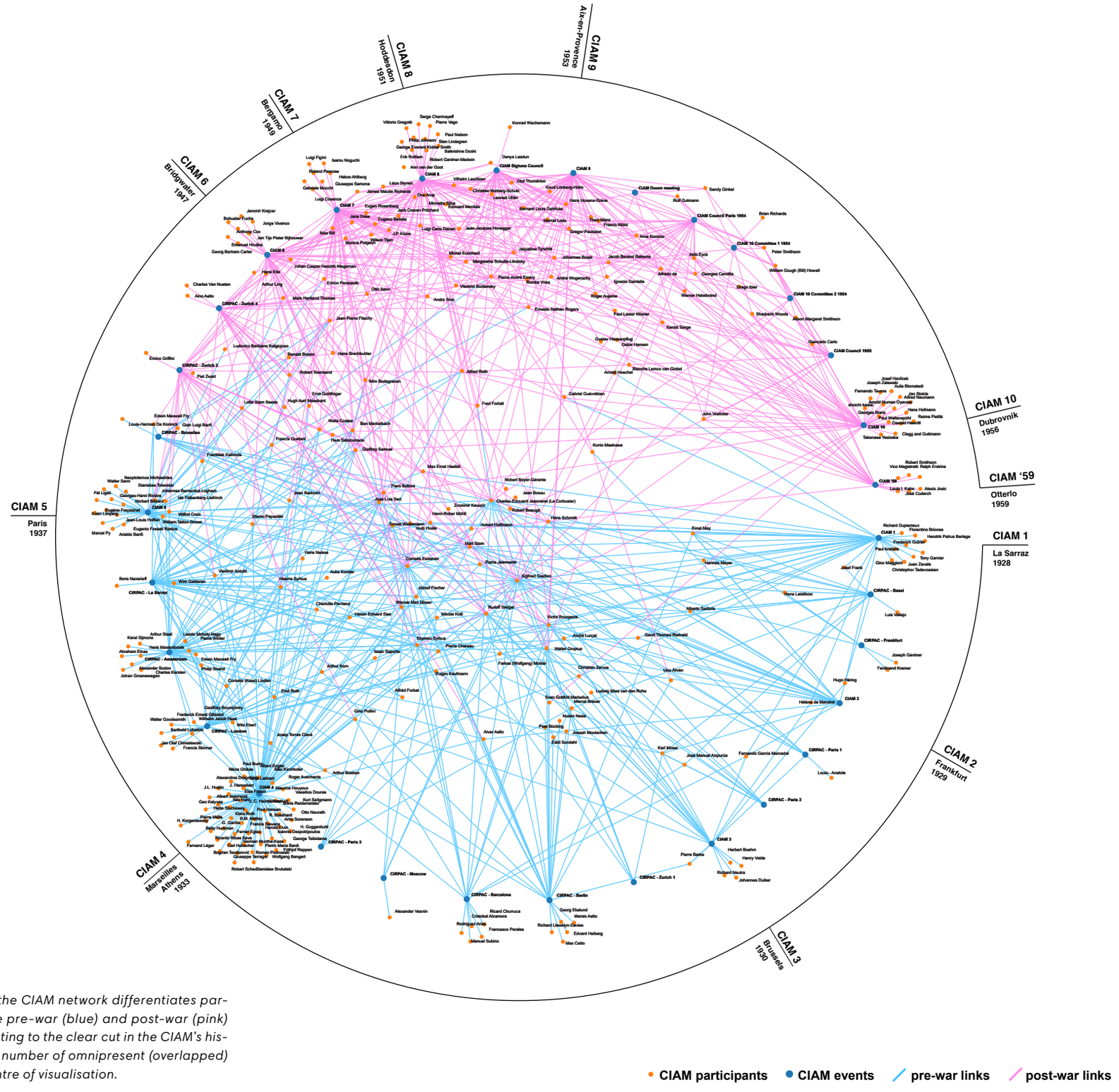

Fig. 1.

Visualisation of the CIAM network differentiates participation on the pre-war (blue) and post-war (pink) congresses, pointing to the clear cut in the CIAM's history, as well as a number of omnipresent (overlapped) figures in the centre of visualisation.

Instituut in Rotterdam, this paper will for the first time show and analyse CIAM as a social network. The aim of this approach is to trace formation and transformation of left tendencies within the overall network and detect discursive ruptures which they directly or indirectly caused.
This research was carried out using digital tools for network analysis and data visualisation developed within ART NET project.[108] The network is visualised in a circular form, defined by the events that chronologically (clockwise) concatenate on its perimeter. Each of these events is linked with a line to the persons who participated in it. The participants of a single event remain outside the circle's perimeter, whereas those who participated in two or more events are located within the circle. Based on a calculation of the measure of centrality, specific positions of persons within the circle point to their greater contribution to CIAM's discourse (Fig. 1). Furthermore, the circular network's topography enables mapping of social encounters in time and space and identification of certain groups with potentially firmer inner cohesion ("social clique").[109] A more precise description of relations between the persons within a clique requires processing additional archive material (the content of mutual correspondence, different types of co-operation, mentorships, friendships etc.), which goes beyond a mere presence at a same event. The latter is key to the overview and analysis of ruptures, which are in the focus of this paper.

MODUS OPERANDI OF CIAM AND ITS RUPTURES

Gathered in La Sarraz in 1928 as a group of individuals with a mission to promote modern architecture, CIAM very soon articulated an atypical organisational structure that serviced the main working platform – so-called working congresses.[110] Set up according to the bottom-up model, CIAM national groups were the basis of this structure. Its members participated in the work of the CIAM's general assembly, which was held during each congress.[111] The groups produced congress material used to articulate CIAM's strategic documents – recommendations for further development of urban planning and habitat of the 20th century. The themes (tasks) became more complex over time. Prior to the Second World War, these involved minimum dwelling (CIAM 2) and rational planning of residential areas (CIAM 3), functional cities (CIAM 4) and regional planning, i.e. "logis et loisir" (CIAM 5). After the Second World War, the congresses entailed several architectural and urban planning issues focusing on habitat (CIAM 7, CIAM 9 and CIAM 10) and the city "core" (CIAM 8) discussed through recent projects.
Nominally, until the Second World War, the main body of CIAM organisation was the (Executive) Committee for the Solution of the Problems of Modern Architecture (CIRPAC – *Comité international pour la réalisation des problèmes d'architecture contemporaine*). CIRPAC directed and organised the work of CIAM. It was composed of two representatives – delegates – from each national group who controlled the flow of information from CIRPAC to the national base and who introduced new national members to CIAM. This type of organisational structure entirely relied on personal contacts, friendships and connections. Unlike international professional organisations, whose members are nominated by national professional entities, this type of organisational structure is another particularity of CIAM, and the argument in favour of approaching it in terms of a social network.
Regardless of the official organisational structure, decisions were taken from 1931 onward within the circle – Le Corbusier, Sigfried Giedion and Walter Gropius, who were later joined by José Luis Sert. The central position of core actors within CIAM's network confirms their influence (Fig. 1). At last their position was formalised during the first post-war congress by their appointment to the newly founded executive body – Council, while CIRPAC lost its importance.[112] National groups continued to have their delegates, but they no longer participated in the work of CIAM's executive body.[113] Taking into consideration the desire for democratisation of CIAM, the establishment of the Council, whose task was "to meet more frequently for the direction of CIAM and the representation of CIAM aims", produced quite the contrary effect.[114] The position of national groups remained the same (each country was allowed to be represented by several groups, and so France had groups Ascoral and Bâtir, and the Netherlands Opbouw and De8), while the impact of the delegates on CIAM's policy and programme was significantly reduced and extremely localised.[115] Furthermore, as the visualisation shows (Fig. 1), there is a clear cut between CIAM's network prior and post war, which is confirmed by a relatively low number of names appearing in both periods. The group with a continuity of presence, having thus the biggest impact

108 The data on 331 architects, members of CIAM, 22 corresponding national groups and 32 events – CIAM congresses and related executive committee and council meetings was processed. The materials from the mentioned archives were used as a source of data on congresses, meetings and their participants, while the complete list of CIAM events brought by Eric Mumford was used as a reference point. (Mumford, The CIAM, 275–276).

109 The simultaneous and multiple type of space and time overview, as well as social events linked to it, which are the backbone of the proposed visualisation, theoretically relies on the concept of time geography, and more specifically on the work of Swedish geographer Torsten Hägerstrand (1916–2004). See: Torsten Hägerstrand, "What about people in regional science?", Papers of the Regional Science Association no. 1 (1970): 6–21.

110 Although established as a biannual event, the congresses were held in 1928 (CIAM 1), 1929 (CIAM 2), 1930 (CIAM 3), 1933 (CIAM 4), 1937 (CIAM 5), 1947 (CIAM 6), 1949 (CIAM 7), 1951 (CIAM 8), 1953 (CIAM 9) and 1956 (CIAM 10).

111 The assembly provided personal contacts among CIAM members, enabled voting on declarations, and dissemination of CIAM's objectives (Commission II. Reorganisation, in: CIAM 5 documents. Bridgwater, 1947 (Zürich: gta ETH, 42-AR-1-9).

112 Rudolf Steiger and Cornelius van Eesteren were also the members of the Council. In the light of the Allies' victory, they were joined by the less prominent representatives of Hungary and Czechoslovakia.

113 The setting up of the council was the result of reorganisation, which was the topic of the first post-war congress in Bridgwater in 1947. A separate commission was in charge of discussed congress topics. This practice was already established before the Second World War.

114 Commission II. Reorganisation, in: CIAM 5 documents, 10.

115 "The delegates or vice-delegates shall be accepted as the intermediaries for ensuring that the work of the local groups is in conformity with the aims of CIAM." Commission II. Reorganisation, in: CIAM 5 documents, 9.

on CIAM, is the mentioned clique that is located in the central position within the network's topography.

Notwithstanding the significance of Le Corbusier's role in the history of architecture or his unique talent, from the very beginning, CIAM existed in Le Corbusier's shadow. The uncompromising imposition of his own vision of architecture and urbanism, his professionally dubious actions and political views, elitism, egocentrism and desire for power placed him at the very centre of CIAM's network. At the same time, his central position was also an incentive to develop a different vision of CIAM's organisation and to rethink the social role of architecture. Le Corbusier's most fervent critics and opponents were recruited from the circle of his collaborators. Therefore, Le Corbusier can be seen as the centre of CIAM's network but also the main cause of the abovementioned ruptures.

Le Corbusier was continuously opposed by the cliques of left-wing architects, the advocators of the idea of an egalitarian democratic society, which they wished to introduce into CIAM organisation. The composition, dynamics and mode of action of these cliques changed in sync with the changes of social and political circumstances. Given the historical context, the roles of cliques moved from *founders / leaders* (1928–30) and *opposition / rebels* (1932–37) to *reformers* (1953–59).[116] They all shared a common understanding of architecture as a tool for developing a more equitable society and advocated

116 The first and the second clique was focused on the existential minimum (slums clearance and social housing) while the third clique delved into a stimulating living environment under the conditions of constant growth and mass housing production in a welfare state.

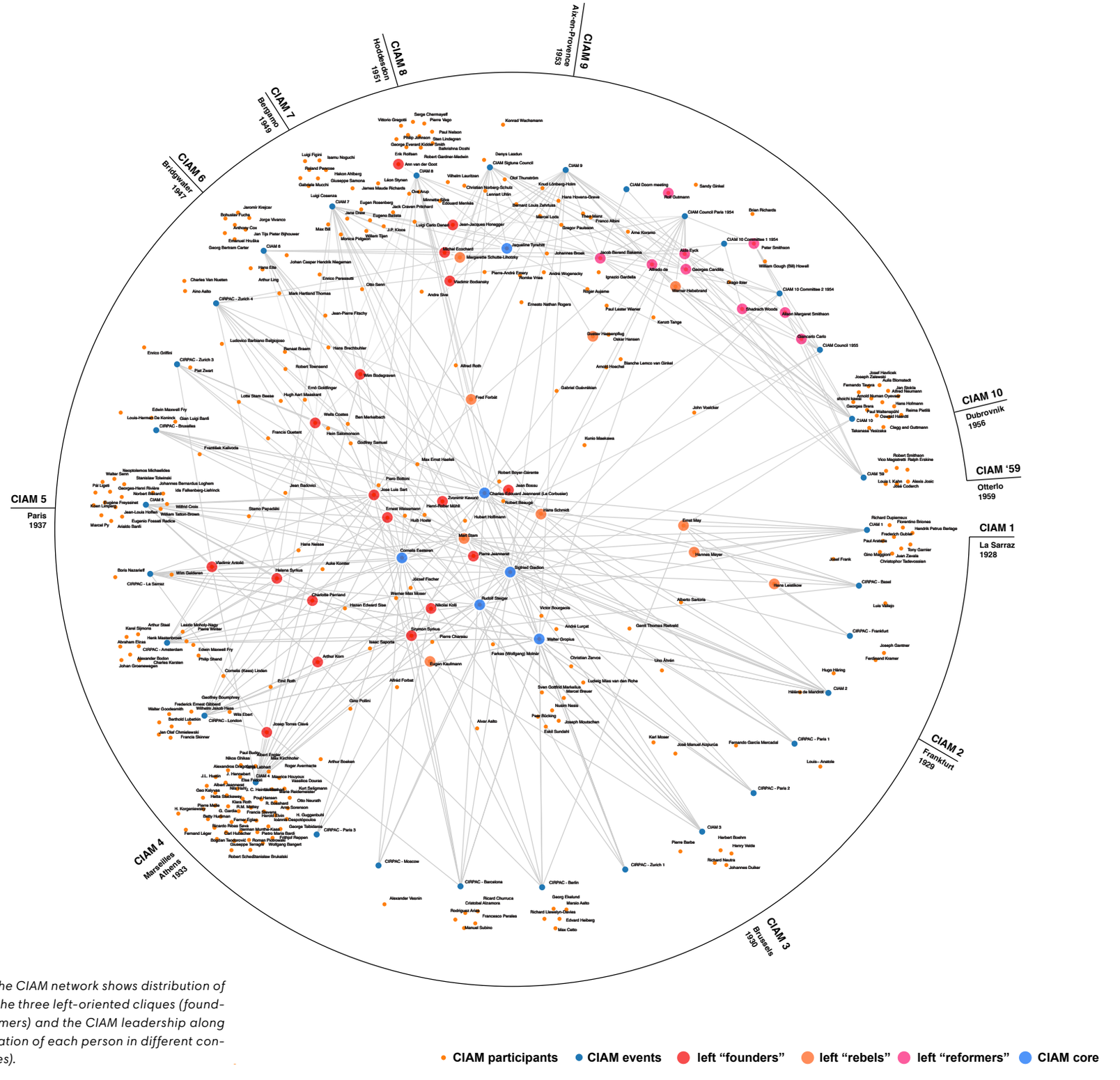

Fig. 2

Visualisation of the CIAM network shows distribution of the members of the three left-oriented cliques (founders, rebels, reformers) and the CIAM leadership along with the participation of each person in different congresses (grey lines).

participation and teamwork as opposed to the hierarchy imposed by the CIAM leadership.

In the centre of each of these three left-wing cliques of CIAM, there were one, or more individuals who were either initiators or mediators of ideas, capable of gathering like-minded individuals around them. The first clique included Ernst May (b. 1886), Hans Schmidt (b. 1893) and Mart Stam (b. 1899), the second was made of Ernest Weissmann (b. 1903) and José Luis Sert (b. 1902), while the third one gathered Georges Candilis (b. 1913) and Jaap Bakema (b. 1914). All three cliques have already been explored and their genealogies are known. The first clique gathered the members of the constructivist Swiss ABC group and the associates of Ernst May involved in the construction of Neue Frankfurt, later the so-called May's brigade.[117] The second clique was made mostly of young European architects who worked in Le Corbusier's studio in the late 1920s and early 1930s, and the third one involved the members of Team 10, among whom was another Le Corbusier's collaborator, Georges Candilis.[118] Personal contacts and cooperation with Le Corbusier seemed to be a precondition for the critical attitude towards his political, architectural and urban planning con-

117 The most prominent brigadiers were Eugen Kaufmann, Margarete Schutte-Lihotzky, Wilhelm Schütte, Alfréd Forbát, Werner Hebebrandt, Hans Leistikov etc. Benedikt Huber: Die Stadt des Neuen Bauens. Projekte und Theorien von Hans Schmidt (Zürich: gta ETH, 1993).

118 The second clique was discussed in: Tamara Bjažić Klarin: Ernest Weissmann: društeno angažirana arhitektura, 1926 – 1939 / Ernest Weissmann: Socially Engaged Architecture, 1926–1939 (Zagreb: Hrvatska akademija znanosti i umjetnosti, Hrvatski muzej arhitekture, 2015).

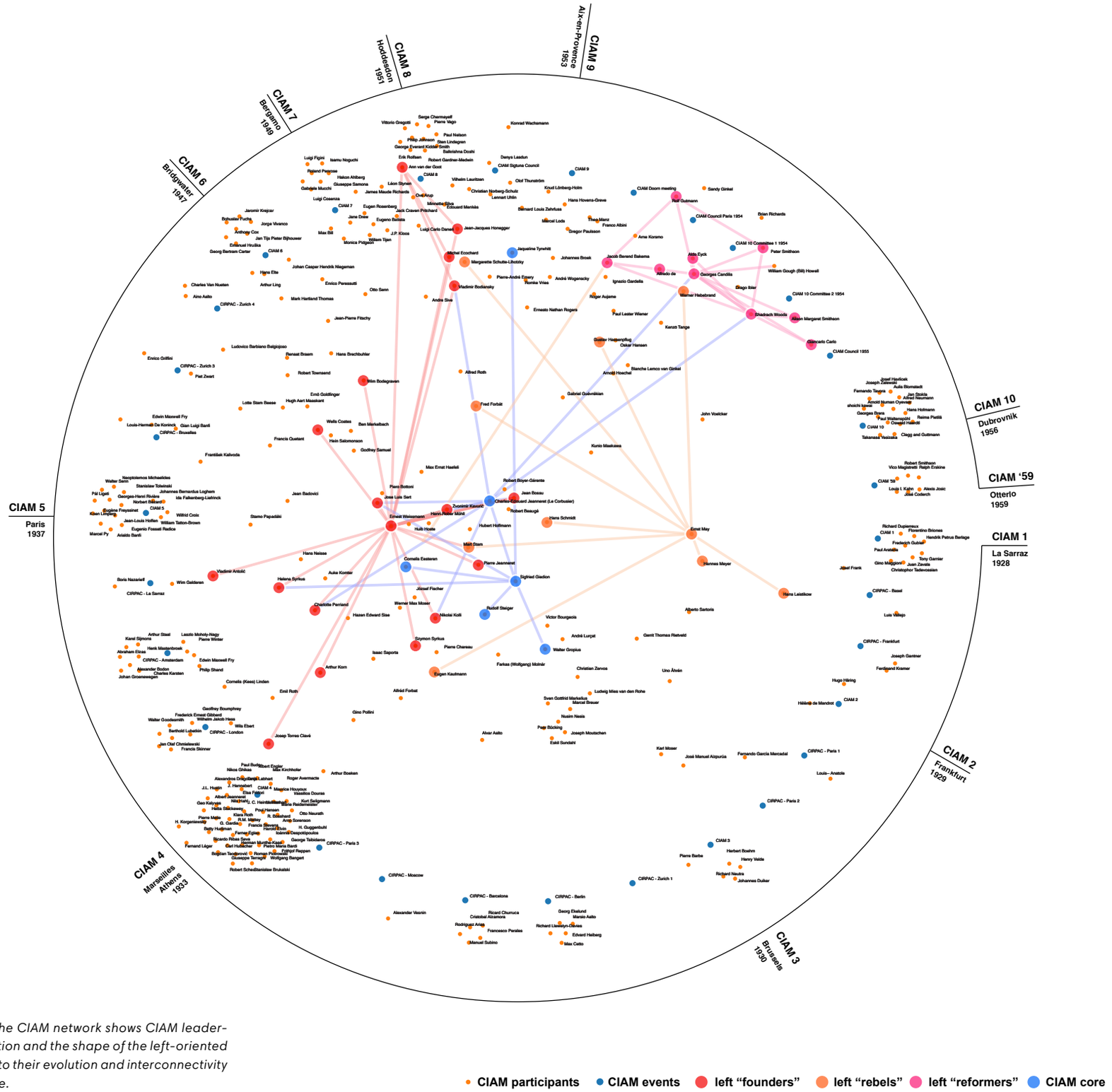

Fig. 3

Visualisation of the CIAM network shows CIAM leadership and distribution and the shape of the left-oriented cliques, pointing to their evolution and interconnectivity in space and time.

cepts. The analysis of the visualisation of the CIAM's network helps to locate the ruptures caused by the formation of the mentioned cliques – to determine a place and time of their beginning and to identify the mediators – persons who provide their continuity. The first one took place between the CIAM's Second Congress in Frankfurt in 1929 and "Special Congress" in Berlin in 1931.[119] The second rupture occurred during the Fourth Congress in Athens in 1933, while the third one came to be exactly two decades later, on the occasion of the Ninth Congress in Aix-en-Provence in 1953.

May, Schmidt, Stam and their like-minded associates briefly led CIAM, from its founding congress in La Sarraz in 1928, until the preparation of CIAM 3 when all participants were acquainted with the achievement of the Weimar Republic – new workers' housing estates and social standard facilities. Only after this group left to the USSR in 1930 and formed the so called May's Brigade, did Le Corbusier come to power.[120]

After this first wave of exodus of German architects to the USSR, the second exodus occurred in the mid-1930s when the Nazis came into power. Many left-wing and Jewish architects, including those who returned from the USSR disappointed with Stalin's politics, left for the Great Britain and the USA. As a consequence, the engagement of May's Brigade members in the further work of CIAM was limited to a minimum, but their contribution was never irrelevant. They were the ones to encourage the young, both directly and indirectly, to rebel in 1933 and 1937. In this year, Eugen Kaufmann and Mart Stam participated in CIAM 5 in Paris along with Arthur Korn (Fig. 2).[121]

After the Second World War, two of Meyer's "brigadiers" continued to be active in CIAM – Margarete Schutte-Lihotzky, acting as the delegate for Austria, and Werner Hebebrandt, representing West Germany. The post-war position of West German architects within international organisations was far from envious. In the topography of the CIAM's network, Schutte-Lihotzky is very close to Michel Ecochard and Vladimir Bodiansky, while Hebebrand is close to the members of Team 10. Their potential direct personal contacts with Team 10 are yet to be explored. Hans Schmidt and Ernst May, as the founders of the first left clique, participated only in one congress after CIAM 2 in Frankfurt. While May's presence at the last CIAM congress in Dubrovnik was almost a symbolic one, the presence of Hans Schmidt at CIAM 7 in 1947 in Bergamo seems to be an important one. His participation marked a first direct link between the founders and reformers, future members of Team 10. Schmidt is therefore, given his particular mediating position, located closer to the centre of the network's topography (Fig. 2). The same can be said for Mart Stam who took part in introducing Ernest Weissmann, and thus the second generation of "rebels", to CIAM as early as in 1928.

119 Mumford, The CIAM, 59.

120 Hannes Meyer also participated in CIAM 1. Hans Schmidt left for Moscow in 1930 to fill the position of advisor to the People's Commissariat of Heavy Industry. Along with his international reputation, acquired in the 1920s thanks to publicist and theoretical work, Le Corbusier also realised his first public building at that time.

121 Arthur Korn was not the Brigade member, but he shared its fascination with USSR.

"WE HAD ANOTHER VERSION OF THE CHARTER"[122]

The "rebels" were doomed to fail because of the lack of their authority. They were mostly young architects, born in the beginning of the 20th century, who were unable to achieve their potential amidst the omnipresent economic crisis. An exception to this was José Luis Sert, a member of GATCPAC, involved in the construction of a respectable number of public buildings during the Second Spanish Republic. Furthermore, together with Weissmann and Sert, the core of the "rebels" involved Josep Torres Clavé, Charlotte Perriand, Pierre Jeanneret (Le Corbusier's partner) and Jean Bossu. All of them, except Torres Clavé, worked in Le Corbusier's studio where they were introduced to Sigfried Giedion and Mart Stam. The studio was a meeting point of CIAM's senior leadership and members who would stop in Paris on their journeys through Europe. Le Corbusier rarely involved his collaborators in the discussions about CIAM and its organisation. For example, it was Weissmann who proposed Sert's participation at Frankfurt congress to Giedion, not Le Corbusier. Moreover, in a letter sent to Giedion, Weissmann complained that Le Corbusier did not share any information with his collaborators. For him, CIAM was a circle of elite architects, rather than a polygon for the affirmation of young generations.[123]

The occasion for the open confrontation between youth and CIAM leadership was the cancellation of the Fourth Congress in Moscow.[124] The young maintained close connection with the USSR and were fully acquainted with the work of Russian and German urban planners on the linear city concept (Sotsgorod).[125] Following a two-year break, Weissmann once again took part in the CIAM during the CIRPAC meeting in Barcelona in 1932. At that very moment, he was aware of the significant ideological changes that occurred within CIAM. The departure of German architects and the inclusion of the Italian Gruppo Sette, supporters of Mussolini's fascist regime, made CIAM leadership take an apolitical stance. Detached from the real-life, official CIAM leadership tended to deal with the burning issues of the 20th century (primarily housing crises) without any real involvement in their social and political causes. The apolitical and socially inactive stance provoked a second wave of resistance. As a central figure of this resistance, Weissmann responded promptly by gathering all like-minded members of CIAM national groups and organising a public debate at the upcoming CIAM 4. Due to many connections and activities they had, both Weissmann and Sert are centrally located in

122 Ernest Weissmann, "We had another version of the charter", Arhitektura no. 189–195 (1984–1985): 32–37.

123 This is explicitly seen in the invitations sent for CIAM 1, one of these being addressed to Weissmann's professor Hugo Ehrlich. Weissmann attended CIAM 2 together with Sert and Kunio Maekawa. Ernest Weissmann, Letter to Sigfried Giedion, November 19, 1930 (Zürich: gta ETH, 42-K-1930-W).

124 Giedion and Van Eesteren's visit to Moscow preceded the cancellation of the congress. The congress was postponed in order to prepare a thorough overview of new soviet cities with the aim of comparing them to the cities of the capitalist West. The visit was possible, since the very same year L'Architecture d'Aujourd'hui organised an excursion of French architects to the USSR Anon., "Architecture et urbanisme en U.R.S.S.", L'Architecture d'Aujourd'hui no. 8 (1932): 49–96.

125 They planned a trip to the USSR in 1933 prior to CIAM 4.

the pre-war "hemisphere" of CIAM's activity, as the opponents to the leading figures (Fig. 2, Fig. 3).

In the summer of 1933 in Athens, rebellious Croatian, Spanish and French architects were joined by their English, Polish and Dutch like-minded peers (Wells Coates, Szymon Syrkus, Helena Syrkus and Wim van Bodegraven). Dissatisfied with the intention to limit urban planning merely to technical aspects, the group suggested an alternative version of the *Athens Charter*, in order to bridge a gap between the apolitical 'inherent' professionalism of architects, urban planners and civil-engineers and their real social-political functions in societies with different economic systems, at different levels of technology and industrialisation.[126]

A prerequisite for realising an alternative charter was the necessary change in the modality of land use and appropriation of the means of production. In order to achieve it, Weissmann proposed a radical political act – abolition of private ownership on behalf of the common good and the "distribution of urban elements irrespective of private interests".[127]

Quite expectedly, the requests of young architects were unacceptable to the pragmatic leadership of CIAM. To Le Corbusier, architecture was the means to ensure status quo, and to prevent a possible revolution. At the first CIRPAC meeting held after CIAM 4 in London in 1934, Corbusier and Giedion managed to restrain the revolutionary youth's ambitions.[128] Once again, CIAM was designated as a par excellence professional association, providing exclusively technical solutions for the problems of the modern city. Their implementation was politicians' responsibility. Afterwards, "rebels" briefly retreated into a "grey zone" but remained in contact and active, both within the British MARS Group and in the French CIAM Group.[129] Aware of this shift, Gropius warned Giedion of the "communist" activity of certain CIAM members and urged him to decisively oppose to the intentions to push CIAM in a different direction.[130]

From 1935 on, Paris was the centre of CIAM's left-wing tendencies, which reached peak during the time of the Popular Front government. Due to the rise of Nazism and the Spanish Civil War, the French group of CIAM took over the organisation of CIAM 5 in Paris in 1937.[131] The French Group had already accrued an extremely complex and colourful history, both because of the conflict between Le Corbusier and leftist architect André Lurçat and because of a relatively large number of fluctuating foreign members such as Paul Nelson, now émigré José Luis Sert, and Weissmann. From 1935, the latter one continued to be the main mediator of the left-wing opposition. At CIRPAC meeting held in the same year in Amsterdam, the group was joined by Mart Stam who had just returned from the USSR. His engagement united the founders (May's brigades) and the new generation of the CIAM left. Interestingly enough, Weissmann's political role during the pre-war period, was three decades later assumed by Jaap Bakema, Stam's graduate student, and a central figure of Team 10 (Fig. 3).

The young architects began a new phase of their work with an exhibition in the Cahier d'Arts Gallery.[132] Its organisers, Weissmann, Charlotte Perriand and Robert Poursain, presented the work of national groups (Spanish GATEPAC, Polish PRAESENS and U, and Yugoslavian Radna grupa Zagreb), an invisible base of CIAM, which carried out huge and complex tasks for the needs of the congresses, but had no right to participate in the development of its programme nor in the overall organisation's decision-making. The goal of the exhibition was to point to the need for reorganisation of CIAM to reach a greater degree of participation of all its members in the work of the congress. As expected, the exhibition was not well received by Le Corbusier with whom Perriand, Pierre Jeanneret, Jean Bossu and Weissmann terminated collaboration following heated tensions during the work on the Pavillon des Temps Nouveaux. Moreover, as the president of the commission in charge of the evaluation of Le Corbusier's presentation on the theoretical aspects of housing and leisure at CIAM 5, Weissmann criticised and confronted the "cher maître" on behalf of his group.[133] He used this occasion to propose a new approach to the topic – a neighbourhood unit as the main urban element, with new housing typologies that facilitate participation and social interactions. This proposal anticipated some of the themes that later marked the discourse of Team 10.

And while Weissmann was summing up the stances of the young generation and distancing himself from CIAM by temporarily renouncing his active engagement, one of his closest associates, José Luis Sert moved from the camp of the rebellions to the "core" of the organisation during CIAM 5 (Fig. 3). The upcoming War and emigration of CIAM leadership to the USA opened the political arena within CIAM to the next generation of architects, including the future members of Team 10.[134]

GRADUAL DYING AWAY

The second generation of rebels, born in the 1900s, suffered the greatest burden of the Second World War. Their personal participation in CIAM events dropped significantly after the War (Fig. 1). Within the network, rebels' visibility is reduced, among other things also due to the mentioned reorganisation – foundation of Council and reduction of CIPRAC authority. Those who remained in CIAM joined the unaltered composition of leaders – Le Corbusier, Sigfried Giedion and Walter Gropius. José Luis Sert was an elected president, while Helena Syrkus became vice-president. The War marked a great cut, after which the work of the entire

126 Weissmann, "We had another version of the charter".

127 Radna grupa Zagreb, The first draft of the alternative version of the Athens Charter, August 10, 1933 (Zagreb: Hrvatska akademija znanosti i umjetnosti, Hrvatski muzej arhitekture, Vladimir Antolić Personal Archive)

128 Weissmann, Sert, Szymon Syrkus, Coates and Torres Clavé attended the meeting.

129 The "rebels" followed the established working agenda. Limited by funding they gathered right before the CIRPAC meetings.

130 Walter Gropius, Letter to Sigfried Giedion, February 14, 1935 (Berlin: Bauhaus Archive, Gropius-Nachlass Collection, 12/505).

131 It was initially planned to continue to work on the issue of the functional city discussing particular projects and then to proceed with regional planning. In January, it was then decided to go for a more populist theme, interesting to a broader public. The Congress was held at the time of the Paris International Exhibition.

132 The exhibition was held from 12 February until 9 March, 1935.

133 Other members of the commission were: Vladimir Antolić, Marcel Breuer, Eugen Kaufmann, Artur Korn, Lotte Stam-Besse, Mart Stam and Polyvios Michaelides.

134 Weissmann renewed his activities in the USA. He was in charge of the Yugoslav pavilion at the New York World Exhibition. Bjažić Klarin, Ernest Weissmann, 2015).

organisation had to begin from scratch (Fig. 1). The new beginning was not followed by enthusiasm and new themes and approaches. Instead of dealing with urgent social needs, such as post-war reconstruction and housing crisis, CIAM leadership continued to deal with the issues relevant to architectural profession, specifically, with the concept of synthesis in architecture. At that very moment, the huge post-war construction projects such as rebuilding Le Havre, Rotterdam and Warsaw had already started.

The new generation of left-wing architects born in the 1910s and 1920s took part in CIAM already in the 1940s. Jaap Bakema attended the first post-war congress in Bridgwater, CIAM 6 in 1947, and Georges Candilis the next one, CIAM 7 in Bergamo, in 1949.[135] Both of them took part in anti-fascist resistance during the War and openly sympathized with the communist ideas. Thanks to the post-war welfare state, unlike their predecessors, they had a unique opportunity to take part in the construction of welfare facilities and housing for large numbers. Jaap Bakema and Georges Candilis boasted their first large public projects, international recognition and credibility already in the early 1950s. They also partially owed it to their successful business partnerships– Bakema to Johannes van der Broek, an established architect of the older generation, and Candilis to Le Corbusier's ASCORAL and later ATBAT-Afrique, whose members were Shadrach Woods and Vladimir Bodiansky. Together with Weissmann, Bodiansky was one of the consultants on Le Corbusier's design of the United Nations headquarters in New York while Candilis was architect in charge of the construction of the Unité d'habitation in Marseillses.[136] The similarities between pre-war and post-war left, rebels and reformers, are multiple. The left-wing movement once again gathered the Dutch, French and British architects joined by the members of the Italian resistance. In the new political circumstances of the Cold War, after CIAM 7, minor changes in the national composition were inevitable. As was the case with the entire movement of modern architecture during the Second World War, the Cold War caused another weakening of connections and discontinuity in their work. While in the early 1930's CIAM leadership tended to distance itself from Soviet architects and CIAM members active in the USSR, this time around it tended to bridge the Cold War division. Actually, CIAM leadership insisted on the participation of the architects from the Eastern Bloc. Helena Syrkus still held her position, although she only participated in CIAM 7. The same goes for Hungarian and Czechoslovakian members.[137] The reuniting with Eastern European architects was one of the major reasons for organising the last CIAM 10 in Dubrovnik, Yugoslavia, the country "in-between" the two blocks.[138]

135 Aldo van Eyck also participated in the work of CIAM from the mid-1940's (Eric Mumford, The CIAM, 172).

136 http://www.team10online.org/team10/candilis/index.html

137 The council members were József Fischer and Josef Havliček.

138 Antolić re-established his contact with CIAM in 1953. He assumed the role of Yugoslavia's delegate after Weissmann moved to Paris in 1935. In 1953, Antolić went to SI Asia as a UN's expert for urbanism. Drago Ibler joined CIAM in that same year. Tamara Bjažić Klarin, "CIAM networking – Međunarodni kongres moderne arhitekture i hrvatski arhitekti 1950-ih godina / CIAM Networking – International Congress of Modern Architecture and Croatian architects in the 1950s", Život umjetnosti no. 99 (2016), 40–57.

Already during CIAM 7, the reformers started a discussion along the same lines of their predecessors.[139] They acknowledged the lack of free distribution of land as the major issue of urban planning. Candilis, who attended discussions at CIAM 4 on the social assignment and role of "urbanists", proposed the setting up of a special commission that would study "various possibilities of land mobilisation".[140] The request by Ernesto Nathan Rogers followed the same line of thought – he advocated the concept of humanist urbanism achieved by "*communisation du sol*" as the official CIAM's policy.[141] Expectedly, Le Corbusier rejected all these proposals. He strongly believed that legislators, rather than architects, were obliged to provide conditions for the implementation of plans.[142] In Bergamo, a discussion on the artistic aspect of architecture took place and Rogers reiterated the stances of the pre-war "left". He argued that architecture must act economically, while the artistic expression should remain within the artistic field.[143] The same was perceived by Marcel Lods who considered any discussion on the architectural form academism, and thus a complete failure. Lods focused on the pressing issues such as distribution of land and prefabricated housing.[144] This discussion was probably one of the reasons for abandoning habitat as the theme of the next congress in Hoddesdon in 1951. At CIAM 8, the theme was "the heart of the city".[145] The thematic change, however, did not stop polemical tones. The group of young architects argued for the necessity of reorganisation of CIAM and its leadership. After the three post-war congresses, it was obvious that CIAM lost its direction and the differences between the leadership, at that moment based in the United States, and the new generation in Europe were growing. The new generation was encouraged by the temporary appointment of Dane Vilhelm Lauritzen, Brit William Howell and Georges Candilis as Council members.[146] Unlike the

139 Schmidt underscored the importance of current social and material circumstances in the opposition to the unification of life in favour of „free development of human needs/volition". 7 CIAM Bergamo 1949. Document (Zürich: gta ETH, 42-JT-4-143).

140 At the time of CIAM 4, Candilis studied architecture at the Polytechnic in Athens. A special commission discussed the legislative aspects of land disposal at CIAM 9. Not coincidentally, Drago Ibler was appointed member of this commission. Les documents de Sigtuna 1952 (Zürich: gta ETH, 42-AR-X-4), 15; Rapports des commissions. Publication interdite, in: CIAM 9. Aix-en-Provence, 19–26 July, 1953 (Zürich: gta ETH), 27–28.

141 The term is "communisation". Compte-rendu de la séance plénière de la Ière commission, in: 7 CIAM, 141.

142 7 CIAM, 142.

143 7 CIAM, 159.

144 Lods co-authored a housing estate Cité de la Muette in Drancy constructed by using prefabrication in early 1930's (7 CIAM, 161).

145 The planned issue was also changed after CIAM 4. Instead of regional planning and application of the Athens charter, it was changed to Logis et loisirs. HABITAT goes beyond the issue of housing as a physical shelter. It unified the "environnement urbanistique", "logis", "hommes" and "environnement immediat"– that is, apartment or house and its surroundings taking in consideration the social and psychical needs of a man.

146 Laurizten represented the Scandinavian countries while Howell and Candilis acted as the representatives of the "young architects". Council Meeting, in: CIAM 8. 1951 Report of Hoddesdon Conference (Zürich: ETH gta, JT-6-23).

previous generation of rebels, positioned in the very centre of visualisation along with the core leadership, this threesome appears at its very rim. Along with Team 10 members, the threesome contributed to the formation of a dynamic clique that for the first time broke the perimeter of visualisation, implicating further turbulences and the final fall of CIAM (Fig. 3).

At the congress in Hoddesdon, Weissmann re-established contacts with CIAM. Immediately after his appointment to the position of director of the Housing and Town and Country Planning Section (Department of Social Affairs, The United Nations, New York), he offered to CIAM a cooperation on the issues of habitat and urban planning – through a newly established CIAM United Nations' group. Sert refused the proposal, claiming that this was contrary to the UN rules.[147] The collaboration was established through a working group appointed to develop a UN technical assistance programme. Gathering Jean Jacques Honegger, Vladimir Bodiansky, Georges Candilis, Michel Ecochard and Weissmann, the group established another direct linkage between the pre- and post-war leftist tendencies and once again, among its members were Le Corbusier's collaborators (Fig. 3). Before the Second World War, Weissmann collaborated with Charlotte Perriand, Pierre Jeanneret and Jean Bossu, and on this very occasion, he was after members of ATBAT-Afrique – Bodiansky and Candilis. They were chosen for their experience in the underdeveloped countries.[148] The working group in charge of the technical assistance programme became active in November 1952 in-between two events decisive for CIAM – a CIAM council and delegates meeting in Sigtuna in June 1952 and a breakthrough CIAM 9 in Aix-en-Provence in July 1953. In Sigtuna, the *reformers* met for the first time without the presence of Le Corbusier, Sigfried Giedion, Walter Gropius and Jose Luis Sert, discussing "what was to become of CIAM",[149] while in Aix-en-Provence Team 10 gathered for the first time on the roof of the Unité.

Known as the congress of the youth, CIAM 9 marked the beginning of leadership "hand over".[150] Candilis emphasised the similarities between CIAM 4 and CIAM 9. Both congresses aimed to establish a charter (of functional city and habitat) and brought about the association of the leftists, who were critical of CIAM's undemocratic decision-making and outdated approaches to the problems of the city. This time, the political issues were not in question. The young architects gathered around Team 10 were fed up with high modernism, architecture based on "five points" and the functional city. They were eager to start their own pursuit for new architectural and urban planning models that would correspond to the new urban programmes and new social needs.[151] As Alison Smithson concluded, the interwar battle "for 'éspase, soleils, verdure'" was over and they were eager to create the architecture of "hope, freedom, identity, change" and "invent architectural language appropriate to the evolving present."[152] Already in Aix-en-Provence, Jaap Bakema and André Wogenscky made their way into the CIAM Council and the organisation of CIAM 10, entitled *The Habitat: problem of inter-relationships. CIAM's first proposals, statements and resolutions*, was entrusted to Team 10 – Bakema, Georges Candilis, Peter Smithson and Rolf Gutmann. Although they were supervised by the leadership, their appointment gradually launched a "takeover" and reorganisation of CIAM. This was done with Le Corbusier's support as he excluded himself from the leadership and directly supported Team 10 in his public address to CIAM 10's participants. His letter was addressed to the pioneers of modern movement and to a new generation yet to come – the so-called "réalisateurs" – who would continue the mission of their predecessors and secure the future of CIAM.[153]

Appointed in Dubrovnik and headed by Jaap Bakema, the commission for reorganisation of CIAM was dysfunctional. Peter Smithson, one of its prominent members, openly advocated for CIAM's dissolution. Negotiations between the commission on one side and Sigfried Giedion, Walter Gropius and Jose Luis Sert did not produce any results. After a three-year long search for a model of CIAM's reorganisation, the young abolished all national groups and in Otterlo in 1959 re-established a flexible network of free, equitable and accountable individuals committed to the ideas of new architecture in the making. The gathering in Otterlo marked the end of CIAM and, officially, the end of a significant part of the history of architecture of the 20th century.

CONCLUSION

Due to the circumstances of its establishment, specific model of organisation and its internal dynamics, CIAM represents a paradigmatic example of an international social network that defined a modernist canon in architecture and urbanism. Given the impact of the leading figures, Le Corbusier in particular, this network was highly centralised (egocentric), with a hierarchical model of decision-making. It was precisely this feature of the network that produced repeated episodes of resistance, based on generational and ideological confrontations. By analysing personal contacts and various types of links within the ideologically and generationally close group of architects, this paper aimed at following the trajectory of the left-oriented clique of CIAM and detecting the moments of discursive ruptures that called

147 As Weissmann was not able to attend the congress, the UN representative was Ann van der Goot, a Belgian employed at the United Nations Town and Country Planning Section. "Main points of speech of A. van der Goot. Representative of United States", in: CIAM 8, 101–102; Rosemary Wakeman, "Rethinking postwar planning history", Planning Perspectives, no. 2 (2014): 153–163).

148 ATBAT-Afrique was the African branch of ATBAT, Atelier des bâtisseurs, founded in 1947 by Le Corbusier, Vladimir Bodiansky, André Wogenscky and Marcel Py, with Jacques Lefèbvre as commercial manager. This so-called atelier was conceived as a research centre, where architects, engineers and technicians could work in an interdisciplinary fashion. Along with Candilis, Shadrach Woods was the second member of Team 10 active in Le Corbusier's atelier. (Projet d'assistance techniques des Nations Unies (Zürich: gta ETH, 42-JT-12-317/353; http://www.team10online.org/team10/candilis/index.html)

149 Smithson, Team 10, 18.

150 CIAM 9 gathered around 3000 participants, including students. Handover was agreed during the meeting between Le Corbusier and Giedion in July 1955 in Paris. (Aspects of Program for CIAM X at Dubrovnik to be given final form at Padova, Aug. 2/3. 1956. (Zurich: gta ETH, 42-AR-14-130/131).

151 In CIAM manner, Team 10 produced its first official document – the Doorn Manifest – in early 1954.

152 Smithson, Team 10, 9–10.

153 The generation born in the 1900s was not neglected; they were also included in the group of founders. Le Corbusier was willing to step down from his role after the meeting with Team 10 in November 1954 (Message of Le Corbusier to the X Congress CIAM at Dubrovnik, in: CIAM 10 Dubrovnik 1956 (Zurich: gta ETH, 42-X-115A)

into question the views of the CIAM leadership. Since the left-oriented clique in general terms presents part of the official historiography of CIAM, the purpose of this research was to analyse this case in depth, deploying the new methodology that we deem a fundamental contribution of this paper. The paper aimed to open up a new analytical field by relying on the relational database and network visualisations. Within this field, the history of architecture can be observed in terms of social networks (centrality, relations, social cliques), while the evolution of discourse can be put in relation to the social constellations within particular spatio-temporal coordinates. As the case of CIAM's left suggests, this approach to data visualisation focuses on the detection of alternative or parallel historical trajectories, "small histories" and peripheral phenomena that destabilise and question the positions of power of central historical narratives and predominant, mostly male figures who defined them. Specifically, some of the visualised social relations open a question of potential links between architects that were not in the focus of research up until now. At the same time, the proposed methodology points to a further research of the spatio-temporal trajectories of individuals, dynamics of CIAM's national groups and the modality and medium of dissemination and transition of architectural and urban concepts in particular cultural settings and under specific historical circumstances.[154] With the need to streamline the entry of a greater amount and more detailed data from primary and secondary sources in the database, this phase of research is yet to be reached.

154 The database developed within the ARTNET project allows for the entry of data on architectural projects, competitions, journals, publications, exhibitions and architectural and artistic groups.

IRENA KRAŠEVAC, PETRA ŠLOSEL
Networking of Central European Artists' Associations via Exhibitions. The Slovenian Art Association, Czech Mánes and Polish Sztuka in Zagreb in the Early 20th Century"
pp. 16-36.

Best, Bettina. *Secession und Secessionen, Idee und Organisation einer Kunstbewegung um die Jahrhundertwende.* München: Matthes & Seitz, 2000.

Marian Bisanz-Prakken. *Heiliger Frühling. Gustav Klimt und die Anfänge der Wiener Secession 1895–1905.* Wien-München: Christian Brandstätter Verlag, 1999.

Bogner, Peter, Richard Kurdiovsky, and Johannes Stoll, eds., *Das Wiener Künstlerhaus. Kunst und Institutuion*. Wien: Lehner, 2015.

Brzyski, Anna. "Vienna Secession, Hagenbund, Sztuka, and Manes : competition and stategic collaboration among central European art groups." *Centropa*, no. 11 (2011): 4–18.

Brzyski-Long, Anna. "Unsere Polen...: Polish artists and the Vienna Secession, 1897–1904". In *Art, culture, and national identitiy in Fin-de-Siecle Europa*, edited by Michelle Facos and Sharon L. Hirsch, 65–89. Cambridge: Cambridge University Press, 2003.

Bulimbašić, Sandi. *Društvo hrvatskih umjetnika „Medulić" (1908.–1919.).* Zagreb: Društvo povjesničara umjetnosti Hrvatske, 2016.

Buhrs, Michael, ed. *Die Münchner Secession 1892–1914.* München: Museum Villa Stuck, 2008.
Cavanough, Jan. Out looking in. Early Modern Polish Art, 1890–1918. Berkley University Press, 2000.

Čorkalo, Katica, ed. *Isidor Kršnjavi, Listovi iz Slavonije – Članci.* Vinkovci: Vinkovci Branch of the Matrix Croatia, Croatian Academy of Sciences and Arts. Vinkovci Center for Scientific Research, 1995.

Goveker, Fran, ed. *Seznam in imenik I. slovenske umetniške razstave*. Ljubljana: Slovensko umetniško društvo, 1900.

Husslein-Arco, Agnes, Matthias Boeckl, and Harald Krecji, eds. *Hagenbund. Ein europäisches Netzwerk der Moderne 1900 bis 1938*, exhibition catalogue. Vienna: Belvedere, 2014.

Jooss, Birgit. "Kunstinstitutionen: Zur Entstehung und Etablierung des modernen Kunstbetriebs". In *Geschichte der bildendnen Kunst in Deutschland. Vom Biedermeier zum Impressionismus*, *Vol.* 7, edited by Hubertus Kohle, 189–211. München: Prestel, 2008.
Katalog izložbe Hrvatskog društva umjetnosti : u Zagrebu 1911. od 1. svibnja do 1. lipnja. (Exhibition catalogue). Zagreb: Dionička tiskara u Zagrebu, 1911.

Kraševac, Irena. Ivan Meštrović i secesija. *Beč – München – Prag: 1900.–1910.* Zagreb: Institut za povijest umjetnosti, and Fundacija Ivana Meštrovića, 2002.

Kraševac, Irena, and Željka Tonković. "Umjetničko umrežavanje putem izložaba u razdoblju rane moderne – sudjelovanje hrvatskih umjetnika na međunarodnim izložbama od 1891. do 1900. godine". *Radovi Instituta za povijest umjetnost*i, no. 40 (2016): 203–17.

Kraševac, Irena, and Petra Vugrinec, eds. *Izazov moderne: Zagreb – Beč oko 190*0, exhibition catalogue. Zagreb: Galerija Klovićevi dvori, 2017.

Kraševac, Irena, ed., *150 godina Hrvatskog društva likovnih umjetnika. Umjetnost i institucija*. Zagreb: Hrvatsko društvo likovnih umjetnika, Institut za povijest umjetnosti, 2018.

Kršnjavi, Izidor. "Druga izložba Društva hrvatskih umjetnika, I. Slovenski slikari," *Narodne novine*, December 31, 1900.

Krzysztofowicz-Kozakowska, Stefania, and Piotr Mizia. "Sztuka-Wiener Secession-Mánes. The central European Art Triangle," *Artibus et Historiae*, vol. 27, no. 53 (2006): 217–259.

Maruševski, Olga. *Društvo umjetnosti 1868.–1879.–1941.* Zagreb: Društvo povjesničara umjetnosti Hrvatske, 2004.

Milčinović, Andrija. "Umjetnička izložba," *Savremenik*, no. 8 (1911): 526–529.

Rollig, Stella, Irena Kraševac, and Petra Vugrinec, eds. *The Challenge of Modernism: Vienna and Zagreb around 1900*, exhibition catalogue. Vienna: Belvedere, 2017.

Secessioni Europee. Monaco, Vienna, Praga, Roma, Palazzo Roverella, exhibition catalogue. Rovigo: Silvana Editoriale, 2017.

Wilhelmi, Christoph. Künstlergruppen in Deutschland, Österreich und der Schweiz seit 1900. Ein Handbuch, Stuttgart: Dr. Ernst Hauswedell & Co., 1996.

Žerovc, Beti. *Slovenski impresionisti*. Ljubljana: Mladinska knjiga, 2013.

ONLINE SOURCES

Belvedere. "HAGENBUND. Ein europäisches Netzwerk der Moderne (1900 bis 1938)". Accessed January 5, 2019. http://tools.fas.at/hagenbund/exhibition.html

DArtHist Austria. "Exhibitions of Modern European Painting 1905–1915". Accessed January 5, 2019. https://www.darthist.at/projektdetail/exhibitions-of-modern-european-painting-1905-15.html

DALIBOR PRANČEVIĆ
Between Art Nouveau and the Avant-Garde: The Personal (Ego) Network of Ivan Meštrović and the Map of Critical Reception of His Work during the 1910s
pp. 38-62

"Rus o Meštroviću". *Srbobran* April 4, 1911.

"Ruski glas o Meštroviću". *Narodni list* September 9, 1911.

"Ruski sud o Meštroviću". *Brankovo kolo* October 13, 1911.

Bulimbašić, Sandi. Društvo hrvatskih umjetnika „*Medulić*" *(1908.–1919.). Zagreb:* Društvo povjesničara umjetnosti Hrvatske, 2016.

Clegg, Elizabeth. "Meštrović, England and the Great War." *The Burlington Magazine*, no. 144, (December 2002): 740–751.

Ivančić, Jasna, and Sanja Kreković-Štefanović, eds. *Građa za bibliografiju Ivana Meštrovića od 1899. do 1993.* Zagreb: Fundacija Ivana Meštrovića, Nacionalna i sveučilišna biblioteka, 1993.

Kečkemet, Duško. *Život Ivana Meštrovića (1883.–1962.–2002.),* Vol. I and Vol. II. Zagreb: Školska knjiga, 2009.

Kečkemet, Duško. *Ivan Meštrović: Bibliografija 1899–2002.* Split: Filozofski fakultet u Splitu, Duško Kečkemet, 2017., knjiga je u tisku.

Kraševac, Irena. *Ivan Meštrović i secesija. Beč – München – Prag: 1900.–1910.* Zagreb: Institut za povijest umjetnosti, and Fundacija Ivana Meštrovića, 2002.

Machiedo Mladinić, Norka. "Prilog proučavanju djelovanja Ivana Meštrovića u Jugoslavenskom odboru." Časopis za suvremenu povijest, vol. 39, no. 1 (June 2007): 133–156.

Meštrović, Ivan. Uspomene na političke ljude i događaje. Zagreb: Matica hrvatska, 1969.

Milačić, Karmen. *Talijanska pisma Ivanu Meštroviću 1911–1921*. Zagreb: Globus, 1987.

Prančević, Dalibor. "Odjek Ivana Meštrovića u Velikoj Britaniji nakon izložbe u Victoria & Albert Museumu". In *Zbornik II. kongresa hrvatskih povjesničara umjetnosti*, 395–403. Zagreb: Institut za povijest umjetnosti, 2007.

Prančević, Dalibor. "Sculpture by Ivan Meštrović at the Grafton Galleries in 1917: critical and social contexts." *Sculpture Journal*, vol. 25, no. 2 (2016): 177–192.

Prančević, Dalibor. *Ivan Meštrović i kultura modernizma: ekspresionizam i Art déco.* Split: Filozofski fakultet u Splitu, Muzeji Ivana Meštrovića, 2017.

Scott, John. *Social Network Analysis: A Handbook*. London: Sage Publications, 2000.

Vujanović, Barbara. "Doticaji umjetnika: Auguste Rodin i Ivan Meštrović". In *Rodin u Meštrovićevu Zagrebu*, edited by Jasminka Poklečki Stošić and Barbara Vujanović, 60–84. Zagreb: Umjetnički paviljon, Muzeji Ivana Meštrovića, 2015.

ARCHIVAL SOURCES

Atelier Meštrović Archives, Letters collection, Zagreb.

University of Notre Dame Archives, Notre Dame, Indiana 46556, Ivan Meštrović Papers, 1924– 1962.

ONLINE SOURCES

Bentkowska-Kafel, Ana. "Debating Digital Art History." *International Journal for Digital Art History*, no. 1 (2015): 50–64. https://doi.org/10.11588/dah.2015.1.21634b

TAMARA BJAŽIĆ KLARIN, NIKOLA BOJIĆ
CIAM Network Visualisation – Detecting Ideological Ruptures in the CIAM Discourse
pp. 64-82

Anon., "Architecture et urbanisme en U.R.S.S." *L'Architecture d'Aujourd'hui*, no. 8 (1932): 49–96.

Bjažić Klarin, Tamara. *Ernest Weissmann: društveno angažirana arhitektura, 1926 – 1939 / Ernest Weissmann: Socially Engaged Architecture, 1926–1939.* Zagreb: Hrvatska akademija znanosti i umjetnosti, Hrvatski muzej arhitekture, 2015.

Bjažić Klarin, Tamara. "CIAM Networking – International Congress of Modern Architecture and Croatian architects in the 1950s." Život umjetnosti, no. 99 (2016), 40–57.
Hägerstrand, Torsten. "What about people in regional science?" *Papers of the Regional Science Association*, no. 1 (1970): 6–21.

Huber, Benedikt. *Die Stadt des Neuen Bauens. Projekte und Theorien von Hans Schmidt.* Zürich: gta ETH, 1993.

Mumford, Eric. *The CIAM discourse on urbanism, 1928–1960.* Cambridge, Mass.: MIT Press, 2000.

Risselada, Max, and Dirk van den Heuvel, eds. *Team*

10: In Search of a Utopia of the Present 1953–1981. Rotterdam: nai010 publishers, 2006.

Smithson, Alison, ed. *Team 10 Meetings 1953–1984*. Delft: Delft University of Technology, Faculty of Architecture, 1991.

Somer, Kees. *The Functional City. The CIAM and Cornelis van Eesteren, 1928–1960.* Rotterdam: nai010 publishers, 2007.

Van Es, Evelin, et al., eds. *Atlas of Functional City. CIAM 4 and Comparative Urban Analysis*. Zürich, Bussum: gta Verlag & Uitgeverij THOTH, 2014.

Wakeman, Rosemary. "Rethinking postwar planning history." *Planning Perspectives*, no. 2 (2014): 153–163.

Weissmann, Ernest. "We had another version of the charter." *Arhitektura*, no. 189–195 (198–1985): 32–37.

ARCHIVAL SOURCES

Bauhaus Archive, Gropius-Nachlass Collection, 12/505, Gropius, Walter, Letter to Sigfried Giedion, February 14, 1935.

gta ETH, 42-AR-14-130/131, Aspects of Program for CIAM X at Dubrovnik to be given final form at Padova, Aug. 2/3. 1956.

gta ETH, 42-AR-1-1/21, CIAM 6 documents. Bridgwater, 1947.

gta ETH, 42-JT-4-125/211, 7 CIAM Bergamo 1949. Document.

gta, ETH JT-6-1/139, CIAM 8. 1951 Report of Hoddesdon Conference.

gta ETH, 42-X-115A, CIAM 10 Dubrovnik 1956.

gta ETH, 42-AR-X-4, Les documents de Sigtuna 1952.

gta ETH, 42-JT-12-317/353, Projet d'assistance techniques des Nations Unies.

gta ETH, 42-K-1930-W, Weissmann, Ernest, Letter to Sigfried Giedion, November 19, 1930.

Hrvatska akademija znanosti i umjetnosti, Hrvatski muzej arhitekture, Vladimir Antolić Personal Archive, Radna grupa Zagreb, The first draft of the alternative version of the Athens Charter, August 10, 1933.

LJILJANA KOLEŠNIK

The Transition of New Tendencies from Neo-Avant-Garde Subculture to Institutional. Mainstream Culture. An Example of Network Analysis

pp. 84–122.

Amaral, Aracy, ed. *Projeto construtivo brasileiro na arte: 1950–1962. Rio de Janeiro: MAM, 1977.*

Argan, Giulio Carlo. L'arte Moderna 1770–1970. Firenza: Sansoni, 1971.

Arte y cibernética: San Francisco, Londres, Buenos Aires. Exhibition catalogue. Centro de arte y Comunicación (CAYC): Buenos Aires, 1971.

Azimuth 1 (3 September 1959), Milano, EPI editorials periodicals italiani.

Azimuth 2 (1 January 1960), Milano, EPI editorials periodicals italiani.

Bagley, Benjamin. "Loving Someone in Particular." *Ethics* 125/ 2 (January 2015): 477–507.

Berzano, Luigi, and Carlo Genova, *Lifestyles and Subcultures: History and a New Perspective. London: Routledge, 2015.*

Burnham, Jack. Beyond Modern Sculpture: The Effects of Science and Technology on the Sculpture of This Century. New York: George Braziller, 1968.

Cainaello, Tiziana, and Mattijs Visser, eds. *The Artist as Curator. Collaborative initiatives in the international ZERO movemnet1957–1967. Gent: MER. Paper Kunsthalle, 2015.*

Calvert, Gemma, Charles Spence, and Barry E. Stein, eds. The Handbook of Multisensory Processes. Cambridge Mass.: The MIT Press, 2004.

Cempellin, Lisa. The Ideas, Identity and Art of Daniel Spoerri. Contingencies and Encounters of an 'Artistic Animator'. Wellington: Vernon Press, 2017.

Computer und visuelle Forschung. Zagreb 1961–1973. Exhibition catalogue. Karlsruhe: ZKM, 2007.

Corà, Bruno. *Tinguely and Munari. Exhibition catalogue. Tinguely e Munari – I Opere in azione, CAMeC. La Spezia: Centro Arte Moderna e Contemporanea, 2004.*

D'Assunção Barros, José. "Mário Pedrosa e a Crítica de Arte no Brasil." Ars – Revista do Programa de Pós-Graduação em Artes Visuais (ECA) do Escola de Comunicação e Artes da Universidade de São Paulo 6/11 (January–July 2008): 40–61.

Denegri, Jerko. "Inside or Outside 'Socialist Modernism'? Radical Views on the Yugoslav Art Scene 1950–1970". In *Impossible Histories – Historical Avant-gardes, Neo-avant-gardes, and Post-avantgardes in Yugoslavia 1918–1991, edited by Dubravka Djurić and Miško Šuvaković. Cambridge Mass.: The MIT Press, 2003.*
Denegri, Jerko. Constructive Approach Art: Exat 51 and New Tendencies. Zagreb: Horetzky, 2004.

Denegri, Jerko. "Die Bedingungen und Umstände, die den ersten beiden Ausstellungen der Nove Tendencije in Zagreb (1961–1963) vorausgingen". In *bit international. [Nove] tendencije – Computer und visuelle Forschung, Zagreb 1961–1973*. Exhibition catalogue. Karlsruhe: ZKM, 2007.

Die Neuen Tendenzen: eine europäische Künstlerbewegung 1961–1973. Exhibition catalogue. Ingolstadt, Düren: Museum für Konkrete Kunst, Ingolstadt (29 September 2006–7 January 2007); Leopold-Hoesch-Museum, Düren (28 January–25 March 2007).

Dhoest, Alexander, Steven Malliet, Jacques Haers, and Barbara Segaert, eds. *The Borders of Subculture: Resistance and Mainstream. London: Routledge, 2015.*

Dossin, Catherine. "To Drip or to Pop? The European Triumph of American Art." *Artl@s Bulletin*, Vol. 3, No. 1 (Spring 2014), 79–103.

Drew Egbert, Donald. *Social Radicalism and the Arts - Western Europe. A Cultural History from the French Revolution to 1968*. New York: Alfred A. Knopf, 1970.

Elger, Dietmar, and Elizabeth M Solaro. *Gerhard Richter: A Life in Painting*. University of Chicago Press, 2010.

Fritz, Darko. "New Tendencies / Nove tendencije." *Oris 10/54 (2008): 176–191.*

Galimberti, Jacopo. *Individuals against Individualism Art Collectives in Western Europe (1956–1969)*. Liverpool: Liverpool University Press, 2017.

García, Maria Amália. "Ações e contatos regionais da arte concreta. Intervenções de Max Bill em São Paulo em 1951." Revista *Universidade de São Paulo 79 (September–November 2008): 196–204.*

Gelder, Ken. Subcultures: Cultural Histories and Social Practice. London: Routledge, 2007.

Granzotto, Govanni. "Arte programmata e cinetica: origini, successo, declino, rinascita." In Arte programmata e cinetica Italiana. Exhibition catalogue (11 October – 8 December 2013, MACBA). Buenos Aires: Museo de Arte Contemporáneo de Buenos Aires (MACBA), 2013.

Von Graevenitz, Antje. "Gerhard von Graevenitz as Curator, Gallerist, Editor, and Lecture Organizer." In The Artist as Curator. Collaborative initiatives in the international ZERO Movement 1957–1967, edited by Tiziana Cainaello and Mattijs Visser, 290–291. Gent: MER. Paper Kunsthalle, 2015.

Hoffmann, Tobias, ed. *Die neuen Tendenzen: Eine europäische Künstlerbewegung 1961–1973.* Heidelberg: Edition Braus, 2006.

Huizing, Colin, and Tijs Visser, eds. *nul = 0. The Dutch Nul Group in an International Context. Exhibition catalogue. Schiedam, Amsterdam: Stedelijk Museum & NAi Publisher, 2011.*

Jakšić, Jasna, and Ivana Kancir, eds. *Nowa sztuka dla nowego społeczeństwa / New Art for New Society.* Wrocław: Muzeum Współczesne Wrocław, 2015.

Kadushin, Charles. *Understanding Social Networks. Theories, Concepts and Findings.* New York: Oxford University Press, 2012.

Klütsch, Christoph. "The Summer 1968 in London and Zagreb: Starting or End Point for Computer art?" In *Proceedings of the 5th Conference on Creativity & Cognition. New York: ACM, 2005: 109–117.*

Klütsch, Christoph. *Computergrafik: Ästhetische Experimente zwischen zwei Kulturen. Die Anfänge der Computerkunst in den 1960er Jahren.* Vienna/New York: Springer, 2007.

Kolešnik, Ljiljana. "Zagreb as the Location of the New Tendencies International Art Movement (1961–73)". In *Art beyond Borders: Artistic Exchange in Communist Europe (1945-1989),* edited by Jérôme Bazin, Pascal Dubourg Glatigny and Piotr Piotrowski, 311–321. Budapest: Central European University Press, 2016.

Kolešnik, Ljiljana, Nikola Bojić, and Artur Šilić. "Reconstruction of Almir Mavignier's Personal Network and its Relation to the First New Tendencies Exhibition. The example of the Application of Network Analysis and Network Visualization in Art History." Život umjetnosti, no. 99 (2016): 58–79.

Konkrete Kunst – 50 Jahre Entwicklung. Exhibition catalogue. Zürich: Kunsthalle, 1960.

Krampen, Martin, and Günter Hörmann, eds. *Die Hochschule für Gestaltung Ulm / The Ulm School of Design.* Berlin: Ernst & Sohn, 2003.

Kuhn, Anette. *Zero: eine Avantgarde der sechziger Jahre*. Frankfurt am Main & Berlin: Propyläen-Verl., 1991.