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Tracing the Non-Aligned Architecture: Environments of Technical Cooperation and the Work of Croatian Architects in Kumasi, Ghana (1961-1970)

Non-Aligned Movement, Kwame Nkrumah University of Science and Technology, Technical Cooperation, Modern Architecture, Postcolonial Architecture

/Abstract

Focusing on the work of a group of Croatian i.e. Yugoslav architects in Ghana, the paper explains the nature of technical cooperation as a model of temporary international contract work in relation to the specificities of the environment built consequently. It concentrates on the engagement of Miro Marasović as the head of the Kwame Nkrumah University of Science and Technology Architects Office, later the Development Office, from 1961 to 1964. As its contextual framework, the paper addresses bilateral technical cooperation as a form of international communication and exchange, the practices of the Non-Aligned Movement, and the interrelations of the pre- and post-independence generation of modern architecture in Africa.

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Introduction

At the end of 2019, almost 50 years after the last architect from Yugoslavia left Kumasi, the author of this text was greeted on the Kwame Nkrumah University of Science and Technology Campus with "Dobar dan, kako ste?" (Croatian for "Good afternoon, how are you doing?"). This greeting by professor John Owusu Addo, one of the most respected and well-known architects in Ghana, reflected the attitude towards the expertise originating in a faraway country a long time ago, which still evokes warm memories. What Prof. Addo referred to was his direct collaboration with the group of Croats led by the architect Miro Marasović, working as staff of the Kwame Nkrumah University of Science and Technology (KNUST) Development Office[1] in Kumasi, Ghana, from 1961 to 1970. Their arrival in Kumasi came about through the procedures of bilateral technical cooperation between Yugoslavia and Ghana.

Even before the formal establishment of the Non-Aligned Movement in 1961, Yugoslavia had used global technical cooperation networks as a vehicle for its "soft diplomacy" towards the emerging and so-called Third World.[2] Consisting for the most part of two forms of transfer unfolding in opposite directions - on the one hand sending experts to rather long-term contract work at host locations and on the other providing scholarships for the education of the "developing" world citizens in Yugoslavia - technical cooperation had its long-term pragmatic goals. However, taking place at the level of society's everyday life, it is precisely the contacts established by technical cooperation that materialized the idea of "friendship" shared in this case with the Non-Aligned Movement members, the concept introduced and maintained at the level of high politics.[3] A transcendent idea of friendship between states thus found its more effective support in friendship between individuals, which largely determined the self-perception of the Yugoslav society within the international context.

Following the activity of the working group consisting of architects Miro Marasović, Nikša Ciko, Berislav Kalogjera and Nebojša Weiner, and a structural engineer Zvonimir Žagar, focusing on their tasks and duties as employees of the KNUST Development Office, this paper aims to set up an argument on

1 The name Development Office used in the text is the current name of the body (formerly Architects Office) introduced in 1964/65, and (colloquially) used by the protagonists.

2 Even though the Movement itself was formalized at the Belgrade Conference in 1961, the idea of the non-alignment had been present in international politics significantly earlier. Its bearers were the states that, regarding the Cold War opposed military-political options, took the "third" position. The appearance of Yugoslavia in such a political encirclement was to some extent a specificity, being a European country that identified itself as a part of the Third World community. The reasons for this could be tracked back to the events of 1948 when, by being excluded from the Information Bureau of the Communist Parties, it remained a socialist country outside the scope of the Eastern Bloc. Finding allies was then realized outside the borders of Europe being a consequence of a "mixture of need, ambitions, circumstances and decolonization that opened up hitherto non-existent countries, which turned Yugoslavia towards the Third World and made it the personification of the Non-Aligned Movement." Tvrtko Jakovina, *Treća strana Hladnog rata* (The third side of the Cold War) (Zaprešić: Fraktura, 2011), 31-32. The other important consequence of its separation from the Eastern Bloc was the introduction of self-management in 1950, through a basically economic law with far-reaching impacts on the society.

3 The concept of socialist internationalism through friendship is well known and could be applied to different levels of social discourse. The orientation of Yugoslav friendship policy towards non aligned countries, among others, could be witnessed by the Friendship Park in Belgrade established in coherence with Movement's founding conference. The concept of friendship was, expectedly, evident within the demagogy of the bilateral technical cooperation procedures (as will be shown by the quotation hereinafter).

several levels. First, it reveals the relationship between technical cooperation as a specific form of work, and the built environment as its product. Viewed within the historical context of decolonization as an unstable condition of tensions between different stakeholders – the former colonial and still present British interests, the aspirations of the newly sovereign Ghana, and the agency of Yugoslavia as the emerging subject on the developing world's market, the paper presumes the modes of technical cooperation as negotiating practice. When reflected through architecture, as the negotiation of knowledge and approach, an ultimate negotiation of power can be brought to light, stratified and readable from the transculturally envisioned and subsequently formed environment. Furthermore, the capacity of negotiating expertise of different origins as a practical skill together with the skills in architectural design formed the two sides of the same coin. The very point could be extracted from the recommendation letter written by the University Vice-Chancellor, Robert Patrick Baffour to Miro Marasović upon the completion of his service. By emphasizing the range of investment and intervention aimed at obtaining the new capacity of the campus and highlighting Marasović's merit, Baffour addresses KNUST as "one of the most beautiful universities in Africa and certainly the biggest in expanse and most comprehensively planned of all."[4] Doubtlessly, the background of such a success depended on an adequate expert's profile.

Another level of argument traced in the background of this case study is posed within the recent discourse on the work of architects from socialist countries in the geopolitical context of the Third World. It reveals the elements of the distinction between Yugoslavia, as a self-managed member of the Non-Aligned Movement and the countries on the Eastern Bloc. Firstly, it addresses the question of the discontinuity of "socialist modernism" and the "freedom of the work" under socialist regimes. Whereas architects from other socialist countries notably considered their work in Ghana to be an alternative to their work at home,[5] the present case suggests otherwise. By reaching a level of freedom towards material and ideological constraints, Croatian architectural culture of the late Fifties enabled the development of individual creativity, at the same time referring to the experiences of the West. The resulting conjuncture simultaneously implied connections with contemporary architectural trends in the world and the acceptance of international modernist culture. Given the technological and organizational conditions, that was achieved only as a one component of a wider practice, but it left significant impacts on architectural design.[6] Hence the work of Croatian architects in the particular case relied on a more straightforward course of continuity. The same could be said about the freedom of architectural work after the decentralization according to the practice of self-management.

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4 Letter of recommendation from Robert Patrick Baffour to Miro Marasović, published in Koprojekt (Zagreb: Koprojekt, unknown year).

5 Łukasz Stanek, *Architecture in Global Socialism: Eastern Europe, West Africa, and the Middle East in the Cold War* (Princeton and Oxford: Princeton University Press, 2020), 64, 93.

6 Žarko Domljan, "Poslijeratna arhitektura u Hrvatskoj (Postwar architecture in Croatia)," *Život umjetnosti*, no. 10 (1969): 21.

As the head of his own architectural office in Croatia, Marasović is a telling example in that regard.[7] Secondly, from the Yugoslav point of view, the question of socialist internationalism either as an ultimate political goal or the socialist testing ground, acquired an additional level of political meaning. The involvement in the Non-Aligned Movement, in this case supporting the ideological bond between Tito and Kwame Nkrumah, highlighted the importance of technical cooperation of architects working in a higher educational organization.

The paper focuses on the Ghanaian work of Croatian architects at different contextual levels: the course of technical cooperation seen from the Yugoslav perspective, the ambivalence of the pre- and post-independence architectural expertise seen from its socio-political and disciplinary positions, and the particular design process. The extensive descriptions of two most significant, recently re-evaluated architectural realizations thereby demonstrate the synergy of various factors, contained among all in the specific collaboration between John Owusu Addo and Miro Marasović.

This theme is closely linked to the recent debates about the nature of colonial and postcolonial networks of architectural expertise, especially the part of it regarding the trajectories of the socialist world. In that sense, it strongly relies on the work of Łukasz Stanek, significant for its pioneering merits in the evaluation of the practices originating in the "other side" of the Cold War division, and their emancipation in the historiographical discourse by positioning on an equal dialectical level with the work of their capitalist counterparts. By addressing the same protagonists and their achievements described in this paper, Stanek's recent book provides a direct view of their position within a broader domain, fundamental for understanding its locus on a global scale.[8] In that sense, this research can be seen as an extension of the network of agents already partly uncovered by other researchers dealing with the export of architectural knowledge.[9] At the same time, it can be viewed as part of the recent scholarship on the cultural practices linking socialist Yugoslavia with the developing nations, including the research on the mobility of architecture.[10]

The paper is a result of a long-term research including archival research of the fonds within the Croatian State Archives in Zagreb, the Archives of Yugoslavia in Belgrade and the archive of the KNUST Development Office in Kumasi, as well as a collection of interviews with the protagonists, their collaborators, professional successors and members of their families. Finally, it is a result of the

7 On the organization of architectural profession in postwar Croatia see Melita Čavlović, "Utjecaj transformacija arhitektonske profesije na arhitekturu Zagreba 1945.-1961. (The Influence of transformations of architectural profession on the architecture of Zagreb 1945-1961)" (PhD diss., Zagreb: University of Zagreb, 2017).

8 Stanek, *Architecture in Global Socialism*.

9 First of all the referenced work of Ola Uduku and Hannah Le Rough regarding phenomena of "tropical architecture". Although not directly referenced, the research benefited by the ideas developed by Tom Avermaete, Iain Jackson, Johan Lagae, Ayala Levin, Muhammad Ijlal Muzaffar, Ikem Stanley Okoye, Kim De Raedt, among others.

10 This includes the work of Catherine Baker, Ljubica Spasovska, Mila Turajlić, Bojana Videkanić, Radina Vučetić, among others. In the field of architectural history, see: (I.a.) Dubravka Sekulić, "Constructing a Non-aligned Modernity: The Case of Energoprojekt," in Unfinished Modernizations: Between Utopia and Pragmatism, eds. Maroje Mrduljaš and Vladimir Kulić (Zagreb: Croatian Architects' Association, 2012), 122-133; and (I.a.) Vladimir Kulić, "Building the Non-Aligned Babel: Babylon Hotel in Baghdad and Mobile Design in the Global Cold War," *ABE Journal*, no. 6 (2014), doi: 10.4000/abe.924.

academic visit to the Kwame Nkrumah University of Science and Technology granted by the University of Zagreb. The work of Croatian architects at KNUST is also one of the multiple case studies analysed within the doctoral dissertation entitled "Croatian Architects' Modalities of work in the Countries of Africa and Southwest Asia 1950-1991" by the same author.

Technical cooperation between Yugoslavia and developing countries

Technical cooperation as a form of international communication emerged at the global scene after World War II. War-torn and in need of an urgent modernization, Yugoslavia first appeared as a recipient of technical assistance from the United Nations agencies as well as from more developed countries of the West. In the mid-1950s, classified as a medium developed country,[11] it became a donor of technical assistance to the developing world. While the Yugoslav foreign policy was taking a new turn, after breaking up with the Soviet Union and other countries of the Eastern Bloc, that will soon, geopolitically speaking, join forces within the non-alignment concept, Yugoslav universities were witnessing an influx of foreign students.[12] In the earliest period of the 1950s the majority of scholarships were granted to the citizens of Asian countries, and later on, after Africa's independence, their geographical range radically expanded. At the same time, the processes of transfer of Yugoslav experts for the purpose of contract work in developing countries began to accelerate. Their recruitment by means of international multilateral agreements started in 1951, when the first Yugoslavs were put at the disposal of the OUN.[13] The first technical assistance experts recruited through bilateral state agreements were sent to Ethiopia in 1954.[14] A systematically organized transfer of experts as a model of technical assistance to developing countries was initiated in 1960, when the first competition was announced for that purpose.[15] Consequently, following the establishment of the Non-Aligned Movement, their numbers vastly multiplied.

The professional structure of expertise channelled through technical cooperation was diverse. Its purpose was, in general, to temporarily compensate for the shortage of qualified staff young nations were faced with after independence. Focusing on basic economic and social sectors, such as agriculture, fishery, forestry, education and health, technical cooperation covered a wide range

11 The classification of Yugoslavia within mid-developed countries was stressed within the reports of the Technical Assistance Departments (e.g. *Annual Report of the Department of Technical Assistance of the People's Republic of Croatia* (Zagreb: Department of Technical Assistance of the People's Republic of Croatia, 1962), 1, HR-HDA-1727, Croatian State Archives, Zagreb).

12 Dragomir Bondžić, "Školovanje studenata iz zemalja u razvoju kao deo spoljne politike Jugoslavije 1950-1961 (The education of students from developing countries as a part of foreign policy of Yugoslavia 1950-1961)," *Annales* 24, no. 4 (2014): 640.

13 *Technical and Scientific Cooperation of Yugoslavia with the Developing Countries* (Belgrade: Federal Department for International Scientific, Educational, Cultural and Technical Cooperation, 1973), 23, HR-HDA-1727, Croatian State Archives, Zagreb.

14 *Technical and Scientific Cooperation*, 4.

15 *Problems of the Human Resources Section of the Department of Technical Assistance of the Socialist Republic of Croatia* (Zagreb: Department of Technical Assistance of the Socialist Republic of Croatia, 1964), 2, HR-HDA-1727, Croatian State Archives, Zagreb.

of professions linked to the specific requirements and determined according to specific development criteria. Architecture and urban and physical planning earned a significant place in the range of disciplines provided under the technical cooperation programs.[16]

Work contracts were usually signed for a period of two to three years and were linked to a particular position in state administration bodies, schools, hospitals, or other kinds of public organizations. Profiles of experts had to be assessed as adequate both professionally and politically in line with the importance of positions they were to occupy in recipient countries. Before traveling abroad, experts got prepared by, among other things, getting acquainted with the language and culture of the host country, but also received instructions on proper behaviour in terms of respecting the foreign policy of the state itself. In occasional instances where experts gave priority to their own interests instead, by an inadequate attitude either towards working or social aspects of life, they were severely criticized.[17] "Such behaviour is generally detrimental to our country's reputation. This phenomenon should be eliminated. Competent authorities should evaluate each candidate in accordance to objective criteria. We are aware that all our experts working in foreign countries are, in some way, our ambassadors and what is observed through their work is nothing less than our entire community. This issue is particularly delicate in the developing countries, which look at us as their sincere friends and expect from our experts much more than from those coming from the capitalist states, ready to turn our failures in their own advantage."[18] The quotation from the Report of Human Resources Section within Zagreb-based Department of Technical Assistance of the Socialist Republic of Croatia addresses two relevant issues. On the one hand, an idealism of "friendly" relationship towards the recipient country, and on the other, a pragmatism evident from the attitude towards "capitalist" competition on the open market of the world longing for modernization. Yugoslav experts had to incorporate both. Therefore, in addition to the exemplary behaviour in terms of their moral and professional qualities, acting for the benefit of Yugoslav companies engaged in economic activities throughout the region was more than welcome.[19] However, technical cooperation and business deals were interconnected, and this nature of their relationship was considered self-understood, and was never latent. The number of experts transferred from Yugoslavia as technical assistance to the developing world varied over time, from just a few per year in the 1950s to

16 The "soft diplomacy" of disciplines covered by technical cooperation had its conceptually close parallel of "cultural diplomacy" recognized by scholars and summed up in the work by Bojana Videkanić. See Bojana Videkanić, *Nonaligned Modernism: Socialist Postcolonial Aesthetics in Yugoslavia, 1945-1985* (Montreal & Kingston – London – Chicago: McGill-Queen's University Press, 2019).

17 Social aspects of life abroad often required expenses some of the individuals were unwilling to accept "for personal reasons".

18 *Problems of the Human Resources Section*, 20.

19 Which, for instance, was possible for experts employed at high positions in government bodies.

several hundreds at the end of the 1960s.[20] The number of awarded scholarships, inducing transfers in the opposite direction, was even larger.[21] Changes in trends of technical cooperation were accompanied by the institutional adaptation of its organization. In general, the period from 1945 to 1961 was marked by the introduction of practices and the formalization of technical cooperation procedures which took place within various state administration bodies. The Federal Department for International Technical Cooperation was founded in 1961 as an umbrella institution in charge of a wide scope of technical cooperation activities including collaboration with the international organizations, countries of the Western and Eastern Bloc, and the developing countries. The Federal Department was subsequently joined by the affiliated organizations at the level of republics.[22] Despite the subsequent reorganizations of their structures, variations in scopes of their services, and changes in titles over time, those institutions were operative until the disintegration of Yugoslavia in 1991. Through bilateral and multilateral agreements, Yugoslavia received, as well as provided technical assistance for almost half a century, and its involvement in that field gained international recognition.

Croatian architects in Kumasi

The appointment of Miro Marasović as head of the KNUST Development Office in 1961 was closely related to the common political views and strong relations between Yugoslavia and Ghana. Bilateral relations between the two countries were formalized in 1959. Already in the same year a request for professionals in architecture and urban planning was sent by the Ghanaian side as part of technical cooperation.[23] In the context of the Cold War, the Yugoslav president Tito and the Ghanaian President Kwame Nkrumah shared a common worldview, formally approved by joining the Non-Aligned Movement at its founding conference in Belgrade, in September 1961. Several months earlier, in spring of the same year Tito had visited eight African countries including Ghana on a trip aboard the Seagull, a navy training ship used as an official president's yacht - itself well-known in the context of non-alignment due to its role in several

20 According to the reports of the Republic's Department of Technical Assistance, 771 experts from Yugoslavia had been sent to the developing countries until 1962, while solely in 1969 their number reached approx. 400. From the end of the 1960s, a downward trajectory will ensue (*Information on Technical Cooperation with Developing Countries* (Zagreb: Republic Department for Technical Cooperation of the Socialist Republic of Croatia, 1970), table 1; *Technical and Scientific Cooperation*, 4 – HR-HDA-1727, Croatian State Archives, Zagreb).

21 Besides the Federal Department for International Technical Cooperation, the Federal Commission for Cultural Relations with Foreign Countries was an institution in charge of the scholarship policy. The highest number of scholarships annually awarded to foreign citizens (generally citizens of the developing countries) was approx. 700 in 1964. Since the early 1970, the number of annually awarded scholarships, with large fluctuations, will amount to about 200 (*Scholarship of Cadres from Developing Countries* (Belgrade: Federal Department for International Technical Cooperation, 1971), appendix 3; *Technical and Scientific Cooperation*, 15 – HR-HDA-1727, Croatian State Archives, Zagreb).

22 Relevant for this research, Department of Technical Assistance of the People's Republic of Croatia was founded in 1962.

23 *Urban Planners for Ghana – Letter to Republican Committees* (Belgrade: Association of Project Organizations of Yugoslavia, 1959), SR-AJ-233, Archives of Yugoslavia, Belgrade.

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important diplomatic missions.[24] As part of the Ghanaian protocol, he visited the location of the University in Kumasi.[25] It can be assumed that the arrival of experts to work on further development of the University, which used to be a college until then, was arranged by an agreement reached on that very occasion. An official Bilateral Agreement on Economic and Technical Cooperation between the two nations was signed in October.[26] At the same time, other arrangements for transferring expertise in the field of architecture were being made as part of technical assistance,[27] and Yugoslav companies were starting to export their products and services to Ghana.[28] **[Fig. 1]**

The appointment of Miro Marasović as an expert for the required task was justified from the political as well as professional standpoint. During the World War II he had taken part in the national liberation struggle. As an active participant of the country's postwar reconstruction, he worked at the Department of Technical Works in Split as well as in the Ministry of Construction of the People's Republic of Croatia as an Assistant Minister. From 1951 on, he gained experience in running his own architectural design bureau. Clearly he matched the profile of an expert with exceptional qualifications in multiple fields. Consequently, one may wonder what his motivation was to leave, albeit temporarily, the position of the head of a productive architectural bureau in Zagreb, and accept a post in Ghana. However, it can be argued that the contractual experts in developing countries enjoyed a better living standard and income then in the early 1960s Yugoslavia,

24 Tvrtko Jakovina, *Simbol mira, pokreta i Tita* (The Symbol of Peace, the Movement and Tito), www.avant-garde-museum.com/en/The-Symbol-of-Peace-the-Movement-and-Tito~no4307/ accessed May 25, 2020).

25 Radina Vučetić and Paul Betts, *Tito u Africi: Slike solidarnosti* (Tito in Africa: Picturing solidarity) (Beograd: Muzej Jugoslavije, 2017), 32.

26 *List of agreements on scientific, technical, educational and cultural cooperation concluded by the SFRY with developing countries*, HR-HDA-1727, Croatian State Archives, Zagreb.

27 Starting from 1962, a group of Yugoslav architects, Branislav Prošić, Dušan Milenković, Milenko Poznanović and Miroslav Nikolić worked as members of the team of the Architectural and Engineering Secretariat at the Office of the President in Accra. See Branislav Prošić, Dušan Milenković, Milenko Poznanović, and Miroslav Nikolić, *Report on the work of the group of architects in Ghana – Information to the Federal Department for International Technical Cooperation*, 1964, SR-AJ-208, Archives of Yugoslavia, Belgrade.

28 Regarding construction services, Split-based Pomgrad built the port of Sekondi while Centroprojekt Zagreb designed the adjacent military base. Zagreb-based Ingra built several food processing plants whose architectural design was signed by Zvonimir Pavešić etc.

Fig. 1

Yugoslav president Tito visiting KNUST in 1961. On the left – Engineering Laboratories building by James Cubitt (Source: Vučetić and Betts, *Tito u Africi*, 32).

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and the nature of their tasks was in many ways challenging. [29] In frequently offered the opportunity of work on projects of strategic significance, which would not have been possible through their practice in Yugoslavia.[30] Expanding expertise internationally was therefore a reasonable choice.

Miro Marasović worked as the head of the KNUST Development Office from 1961 to 1964. Upon his invitation he was joined by two other Croats, Nikša Ciko who arrived to Kumasi in 1962 and worked in the Office until 1968, and Berislav Kalogjera, who provided technical assistance from 1963 to 1965. After Marasović's departure, the team of the Development Office was joined by the architect Nebojša Weiner and the structural engineer Zvonimir Žagar. They both arrived in 1965, for the purpose of design and construction supervision of the Unity Hall building whose drawings for construction were outsourced to Marasović's Zagreb-based bureau. Weiner continued to work in the Office until 1970. After a year working in the Office, Žagar joined the academic staff of the KNUST Faculty of Architecture's

29 The experts who worked under bilateral technical cooperation agreements were generally financed by the host countries. Only in exceptional cases their work expenses were borne by Yugoslavia.

30 Regarding construction works, since the great momentum of the postwar reconstruction in Yugoslavia started to weaken, a shift towards the foreign market was a logical decision.

Fig. 2

Graduation ceremony at KNUST – in the front from left to right, John Owusu Addo, Miro Marasović, and Nikša Ciko (Source: Z. Ciko private archive).

Fig. 3

Berislav Kalogjera at his Development Office drawing table – sectional perspective drawings for Chancellor's Residence on the back panel (Source: Z. Ciko private archive).

Department of Building Technology where he taught until 1970. [Figs. 2-3] The professional experience of individual members of the Croatian group was diverse. Marasović went to Ghana as an already experienced and renowned expert. Kalogjera, who had an open-ended employment contract in the Split-based Urban Planning Institute of Dalmatia, interrupted only during his stay in Ghana, came as an already well established architect and urban planner. Ciko, Weiner and Žagar obtained their university degrees in the second half of the 1950s, and their work in Ghana gave them an opportunity to gain experience which was to a large extent formative and crucial. Later on, in the second half of the 1960s, Ciko and Weiner themselves obtained head positions of the Development Office.[31]

Tropical interpolation

The process of dissemination of modern architecture in many African states can generally be determined in two phases coinciding with the two postwar decades; the first still linked to the colonial political relations of the 1950s, and the second to the sovereign period of young nations in the 1960s. The architecture of the first phase was, consequently, homogeneous because of the origins of its protagonists, mostly experts and companies coming from the respective European metropoles, while the architecture of the second phase was considerably more heterogeneous.[32] Consequently, it could be expected that this difference reflected on the design approach. The first phase generally involved architects and companies with international experience, specialized for particular areas. The architects who joined them in the second phase encountered the specificities of the local traditions as well as the extreme climate more or less for the first time. It is therefore logical to assume that their reaction methodologically relied on the development and adaptation of their knowledge acquired within the context of their own home architectural cultures. Moreover, as "ambassadors" of the country that declared itself "friendly", the particular transfers of Yugoslav expertise acquired an extended ideological purpose of 'aiding' the young nations by sharing specific knowledge as welfare. Resulting from the presence of various spheres of influence, further deviations from that process were diverse and complex. The aim to clarify their nature through elaboration of the specific case study is inherent to the structure of this work.[33]

31 From 1961 onwards, the Development Office was headed by Miro Marasović (1961-1964), John Owusu Addo (1964-1965), Ernst Blaser (1965-1967), Nikša Ciko (1967-1968), Nebojša Weiner (1968-1970). After the departure of Nebojša Weiner, the Office was taken over by Jan Skokanek.

32 Ola Uduku, *Postwar African Modernism*, lecture, vimeo.com/25342667 (May 23, 2016). The process of the after-independence modernization of Ghana through architecture that "cannot be reduced to a sum of European "modernisms" was approached in a work by Łukasz Stanek. See Łukasz Stanek, "Architects from Socialist Countries in Ghana (1957-67): Modern Architecture and its *Mondialization*," *Journal of the Society of Architectural Historians* 74, no. 4 (2015): 416-442.

33 The divergence in approaches as a result of the particular modality of the architect's work, e.g. technical cooperation which involved a long-term stay at the location and developing projects through international communication, and in contrast, modalities in which the projects were "exported" or rather "transmitted" from the home design bureaus, was analysed within the above mentioned dissertation thesis.

The dissemination of modern architecture in Africa was in many cases driven by a tabula rasa approach, even in the postcolonial context. For Croatian architects in Kumasi, this was not the case. The scope of their work consisted of interventions within the area of the former College of Technology, designed and to a large extent constructed in the previous decade. The qualities of the urban layout of the College as well as the architectural solutions of its individual buildings, signed by British architects James Cubitt and Kenneth Scott, classified the particular educational complex among the canonical examples of "tropical modernism" whose significance far exceeds Ghana's borders. It has been considered as one of the crucial components determining a specific, overall approach to architectural design in the tropics.[34]

At the turn of the decade, the College of Technology acquired its University status, named after the first president of the Republic, Kwame Nkrumah University of Science and Technology.[35] In line with the ambitions of the new nation, the investment in education got increased. In that particular case, this was demonstrated by an increase in student numbers, an introduction of new curricula and a new momentum in the overall construction at the campus. Made under Marasović and conceived as a superposition on James Cubitt's plan, a new urban layout of the campus implied multiple increases in its capacity. The guidelines of the plan were used as a basis for various architectural projects.

The first generation of architecture and planning at the Kumasi College of Technology: "tropical architecture"

The College of Technology in Kumasi was established in 1952 as an Anglophone affiliate of the University of London. After a short period of provisional construction using prefabricated elements that should have enabled the early completion of its educational function,[36] its spatial development and control of the initial phase of its construction were entrusted to James Cubitt's office, whose engagement was later complemented by the work of Kenneth Scott.[37] Both architects were educated in the United Kingdom and, together with Jane Drew, Maxwell Fry, Lindsay Drake and Denys Lasdun, were the most prominent architectural figures in the 1950s Ghana.[38]

Cubitt's plan introduced the distinctive spatial determinants of today's campus. Situated on an approximately sixteen square-kilometres of undulating land, about seven kilometres away from the city of Kumasi, it was composed of

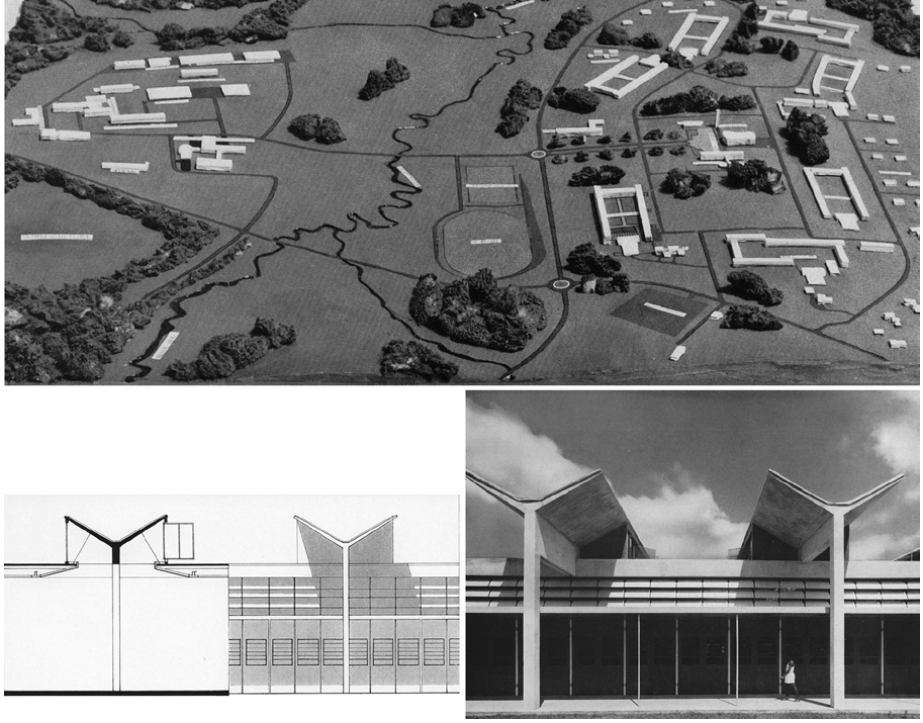
34 In that sense, the selection of campus buildings among the works illustrated in publications by Maxwell Fry and Jane Drew (ref. 39) is perhaps the most indicative.

35 After the overthrow of Nkrumah in 1966 his name was removed from the name of the University, turning the Kwame Nkrumah University of Science and Technology (KNUST) into the University of Science of Technology (UST). In 1998, Nkrumah's name got rehabilitated and was reintroduced in the name of the institution.

36 Jean Adjei, *Change in trend of architectural style on Kwame Nkrumah University of Science and Technology campus* (BSc thesis, Kumasi: KNUST, 2005), 15.

37 Ola Uduku, *Tropical Ivory Towers: A Critical Evaluation of Design Symbolism and Practical Aspirations of the West African University Campuses in their Fifth Decade* (Mexico City: Docomomo 11th International Conference, 2010).

38 Udo Kultermann, *New Architecture in Africa* (New York: Universe Books, 1963), 16.



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modern buildings scattered throughout landscaped lawns and tropical flora.[39] The plan divided the campus territory into three areas of different functional and structural characteristics, intended for the faculty buildings, the student accommodation with the majority of accompanying social and cultural content, and the housing for the academic staff. A number of completed buildings including lecture halls, student halls of residence, and the well-known building of the Engineering Laboratories, were some of the particular models defining the concurrent disciplinary discourse of "architectural tropicality."[40] [Fig. 4]

A large number of investments directed by the British government to the West African colonies in that particular period built a knowledge system and enabled its subsequent dissemination in professional circles, with an emphasis on the methodological specificities of the design approach in the tropical areas. "Fry and Drew's definition of tropical architecture was of a regional style attuned to the people, materials and climate of a zone. In practice, the emphasis was on climate… The climatic response worked at two levels, in siting of buildings, and in their sectional treatment… The most influential and common element of tropical architecture was a cross-sectional form which responded to sun and wind. The basic arrangement for many buildings was a flat roofed, rectangular block, one room wide with an open access corridor. The long, glazed elevation was oriented towards the north or south, with louvres, canopies or balconies used to control solar ingress, and pivoting or louvre windows used to admit breezes."[41] In addition to the precise description of its common elements, from a conceptual

39 George William Kofi Intsiful, *The architecture of the Kwame Nkrumah University of Science and Technology campus in Kumasi*, www.mudonline.org/aat/2007_documents/AAT_Intsiful_paper%20web-based%20publication_architecture%20KNUST.pdf, accessed August 01, 2014.

40 The AA School of Tropical Architecture – department and design course persisting from 1954 to the beginning of the 1970s at the Architectural Association School of Architecture in London, and simultaneously published design manuals, were among the dominant bearers of that discourse. Cfr. Maxwell Fry and Jane Drew, *Tropical Architecture in the Humid Zone* (London: Batsford, 1956); Maxwell Fry and Jane Drew, *Tropical Architecture in the Dry and Humid Zones* (London: Batsford, 1964).

41 Hannah Le Roux, "Modern Architecture in Post-Colonial Ghana and Nigeria," *Architectural History* 47 (2004): 366.

Fig. 4

James Cubitt, Kumasi College of Technology, 1950s – Masterplan, Engineering Laboratories (Source: Kultermann, *New Architecture in Africa*, 97, 103).

standpoint, an experiential impulse should be emphasized. The space of an extreme climate was modified by architecture into a comfortable space of living, using gradual transitions of semi-permeable partitions, controlling light and rain, and directing flow of air. For instance, student halls of the residence designed according to Cubitt's layout of the campus could be perceived in sequences, without the intention of a complete spatial perception of their composition. By forming a leveled transition from the exterior of the artificial nature, the protected space of an inner courtyard, the covered space of an open access corridor and the enclosed space of a room, space is treated through the experience of its various temperatures, shades, humidity and airflows. At the same time, climate factors were addressed by "low-tech" solutions performed by the architectural elements and designs themselves, without relying on mechanical air conditioning and electricity. Although some of the elements contained hints at local cultural heritage – for instance the perforated screen walls referring to traditional fabrics, or even containing expressive motives, perhaps the most evident in the roof design of the Engineering Laboratories – visual appearance was rarely the priority motivating force behind the architectural concept. Rather, it was a subsequent result of the derivation of climatic conditions of the site.

The second generation of architecture and planning at the Kwame Nkrumah University of Science and Technology: hybridization of approaches

After Ghana declared its independence in 1957, the development of this higher education institution as well as its architectural assembly coincided with a period of significant prosperity. The new aspirations were followed by an organizational change in its development planning, and in 1958 its own Development Office was established.[42] In 1961 the College acquired its University status. As an agency reporting to the Development Committee of the University Council, the Development Office was in charge of carrying out the construction activities within the assembly. Its staff was made up of architects, quantity surveyors, structural engineers, technicians and other officials. Its number of employees was not constant and was needs based. The requirements for project documents were sometimes too large to be carried out within the Office and were therefore outsourced, whereby the Office acted as the managing, supervisory and corrective authority.[43] During Marasović's leadership from 1961 to 1964, and onwards, the ethnic structure of the Development Office was diverse and included highly educated staff of Ghanaian origin.

As a synthesis of Marasović's work, a ten-year projection master plan of the campus was produced by the Development Office in 1964. Describing its basic guidelines, Marasović wrote that "the program of increasing capacity of the

42 Correspondence with John Owusu Addo, 2014.

43 Nebojša Weiner, *Mr. Weiner's handing over notes to Mr. Jan Skokanek* (Kumasi: Development Office, 1970), Nebojša Weiner private archive.

dormitories from 2000 to 5000 students was impossible to achieve following the concept of existing low-rise construction composed in a system of large rectangles. High-rise building is inevitable, moreover it is approved by the fact that multi-storied blocks were already constructed at the University. The (new) construction consists of two phases: adding new accommodation blocks to the existing halls of residence, with which they form an organic and functional unity by common entrance and existing common public spaces, and constructing new free-standing accommodation blocks with its own public content. The newly built blocks of the first phase architecturally enrich the entire area by its surfaces and verticality, both in panoramic and singular vistas. A free-standing dormitory for 450 students, containing all the necessary common facilities, is an element of the second phase of realization of the planned capacity of the University."[44] The quoted description is more a manifesto than a reflection of spatial facts. A look at the campus layout reveals that it was perfectly possible to supplement the content with lower construction. The decision to build in height, however, required greater technological and material readiness. The previously constructed four low-rise students' halls of residence whose architectural layout was outlined by Cubitt's plan, namely Independence Hall, Queens Hall, Republic Hall and University Hall, had got their high-rise complements by the "first phase" elements of the new plan conceived and constructed as their Annexes. Of the eight planned second phase students' halls of residence, only two were realized, the Unity Hall and the Africa Hall, the latter with only half the capacity. [Figs. 5-6-7]

Even though it is evident from Cubitt's plan that the colonial government was ready for an investment covering a generously sized area, artificial landscaping, import of building materials and quality architectural solutions, Marasović's plan relied on a comparable financial impulse. The technologically demanding[45] construction of dormitories as "an architectural response to the tropical climate of the campus in an attempt to take advantage of the cool breeze and ensure effective land use"[46] gave priority to the architectural ideal over the doubtlessly limited technological means. Finally, the solution of the Development Office was accepted despite possible secondary concerns, which both developers and architects must have been aware of. Despite a clear architectural justification, the social stimulus of a young nation undoubtedly gave impetus to the decision to build the new layer of the campus vertically. One could speculate whether the same decision was intended, both at the architectural and symbolic level, to differentiate the layer of the second generation from the previous one.

What could be observed as a general characteristic of both the masterplan and the individual architectural designs is, firstly, respect for the existing architecture, and secondly, a slightly stronger emphasis on the visually expressive

44 Map of projects by Miro Marasović in Ghana, M. Berček Gomboš private archive.

45 Regarding the available building technology, it is important to emphasize that the particular construction site of the Unity Hall, a nine-storey high concrete building, did not include the presence of the crane (Conversation with Nebojša Weiner and Zvonimir Žagar, 2012).

46 Correspondence with John Owusu Addo, 2014.

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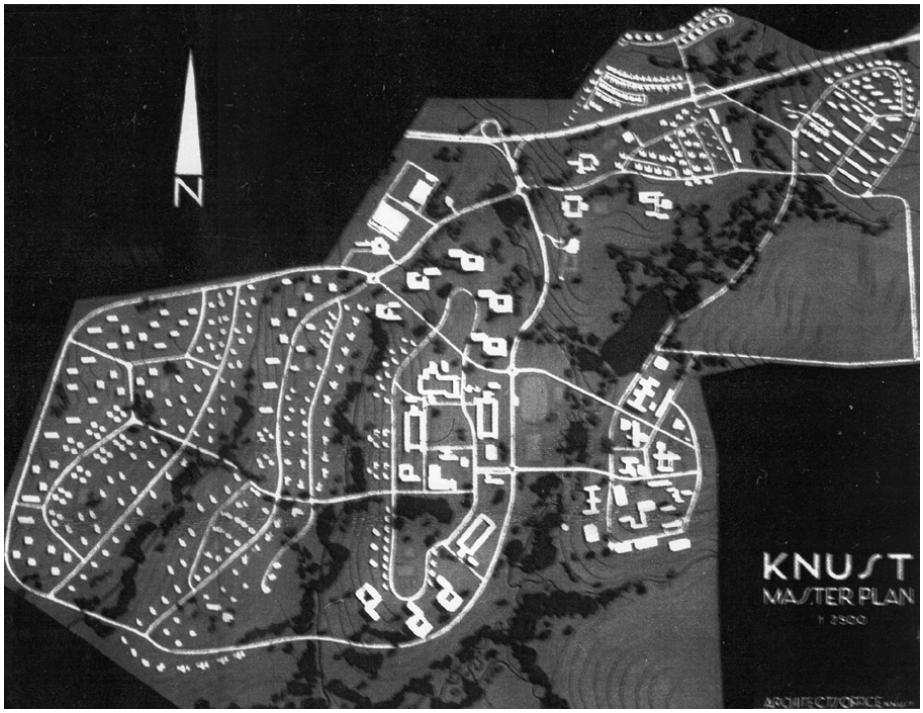

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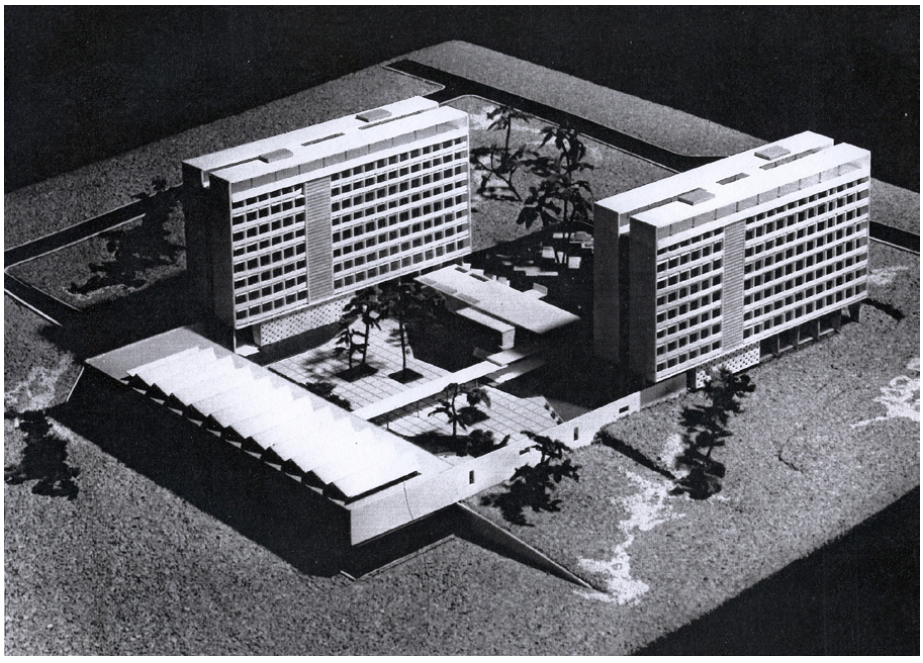

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Fig. 5

The high-rise Annex of the low-rise Hall (Source: M. Berček Gomboš private archive).

Fig. 6

Development Office under Miro Marasović, KNUST Campus Masterplan, 1964 (Source: M. Berček Gomboš private archive).

Fig. 7

Miro Marasović and John Owusu Addo, Unity Hall – a model of a dormitory for 450 students, 1964 (Source: M. Berček Gomboš private archive).

appearance. Regarding the first, forming "the organic and functional unity" between the strata of the palimpsest, as described by Marasović, was supported by a number of direct conceptual references to his predecessor. Regarding the second, even though the qualities of "panoramic and singular vistas" could be recognized in both concepts, one might claim that Marasović's paradigm remained at the level of the geometric composition vocabulary. The aspects of the climate were addressed well, but the "diagrammatic" treatment of the climate itself was not the initial premise within the design process.[47] The further analysis of the two most important buildings at the campus designed by Marasović, The Unity Hall and the Senior Staff Club House, corroborates this view.[48]

As a new-generation dormitory type, the Unity Hall model was to achieve its eight-fold application within the central area of the campus.[49] Considering its basic social function, the climate-responsive performance of the building was a logical and necessary basis for the design. As conceptualized by the Masterplan, the type was defined by the modern composition of "public" horizontal and "private" vertical elements. Partly expressively related to an uneven terrain of their outskirts, the common ground floor facilities formed a rectangular courtyard, referring to the older generation of halls outlined by Cubitt's plan. The private accommodation units were set within eight elevations of two slipped vertical blocks. Beside the fact that its blocks referred to the model defined by the previously constructed Annexes of Halls 1, 2, 3 and 4, the Hall 5 applied a more rational communication system. While the vertical Annexes could be fully perceived through the previously quoted description of a general approach to architecture in the tropics by Hannah Le Roux, as "flat roofed, rectangular blocks, one room wide with an open access corridor…", for the purpose of increasing floor plan efficiency, the corridors of the new building were conceived as central communications within the two rooms wide elevations. Ventilated at their ends as well as throughout the staircase membranes, the central corridors were treated as an open space, enabling the cross ventilation of rooms.

The Unity Hall project was a result of a collaboration between Miro Marasović, a well-experienced Croatian architect, and John Owusu Addo, a British-educated Ghanaian architect significantly versed in architectural design in the tropics.[50] While Marasović was credited as the chief designer, Owusu Addo was credited as the project architect in charge of its preliminary design drawings devised

47 This difference could also be interpreted through the overall change in trends in architecture of 1950s and 1960s.

48 Their produced Docomomo fiches provide the fact of their current evaluation. See: Ola Uduku, "Modernity Architecture and the Higher Education in Ghana: Initiating the Documentation and Recording of the KNUST University Campus in Kumasi," in Timely Teaching: Education Idealism and Modern Architecture (Manchester: Manchester University, 2018): 123-134).

49 Referred to also by the names Hall 5 and Continental Hall.

50 John Owusu Addo attended Regent Street Polytechnic (1952-57), now University of Westminster, and studied Tropical Architecture at the AA (1963-64) in London. See: Correspondence with John Owusu Addo and Charles Kofi Bosumprah, 2019).

at the KNUST Development Office.[51] Construction drawings were produced in Marasović's architectural office in Zagreb, under the leadership of the architect Marta Berček Gomboš, and the structural design at the University of Zagreb Faculty of Civil Engineering, under the leadership of Professor Veselin Simović. Quantity surveying and equipment for the building were provided by the British, and the construction was carried out by Swiss and Italian companies, with local subcontractors. The architectural supervision was entrusted to Nebojša Weiner, and the structural supervision to Zvonimir Žagar who arrived in Ghana particularly for that purpose. The building was made of reinforced concrete, and the construction materials, carefully selected, of high quality and resistant to the climate conditions, were for the most part British imports. Wooden furniture was of local production.[52]

The nature of this particular mode of work apparently required significant leadership skills to coordinate the expertise, including interests, coming from various sides. In that sense, not only Marasović's competences but also his commitment were evident. However, he must have been aware of his lack of experience in the domain of tropical climate and this is where John Owusu Addo successfully stepped in. While Marasović's responsibilities included the integrity of its architectural as well as urban-planning scale, Owusu Addo was responsible for the project development ensuring the performative quality of the hitherto unique building type. That included, for instance, the already mentioned ventilated central corridors of the room-blocks, and the kitchen unusually positioned below the level of the dining room, to enable the comfort of cross ventilation of the entire publicly used building's ground floor area.[53] The final touch was subsequently given by construction drawings from Marasović's Zagreb bureau, visited by the Ghanaian architect in the course of their completion. The preparation of project documents in a language initially unfamiliar to Marasović, including application of British design standards ended with satisfactory results.[54] Finally, the Unity Hall building could be described as a successful correspondence between Owusu Addo's "tropicality" and an architectural culture of international modernism closer to Marasović's professional habitus.[55] [Figs. 8-9-10-11-12]

"Modernist approach performed through abstraction, transparency and spatial polyvalence"[56] is apparent at the Senior Staff Club House. Located in the middle of the university staff housing area, the building was designed by Marasović in

51 Conversation with John Owusu Addo, 2019. The project documents were signed by Marasović as "senior architect" and Owusu Addo as "architect in charge". See: Unity Hall project documents, KNUST Development Office Archive, Kumasi).

52 Conversation with Zvonimir Žagar, 2012, 2020.

53 Conversation with John Owusu Addo, 2019.

54 In that regard, support by John Owusu Addo was helpful and generous. Cfr: Conversation with J. Owusu Addo, 2019).

55 As already mentioned in the introduction of the paper, the "internationalization" of Croatian architecture of late Fifties directed its trends in line with the world's achievements. The new "aesthetic orientation" consequently led to the conceptual purity of form, the reduction in the use of materials, the integrity of the structural elements within the conceptual totality of the design etc. Cfr. Domljan, "Poslijeratna arhitektura u Hrvatskoj", 21.

56 As synthesized by Žarko Domljan in a canonical text regarding paradigmatic works of Croatian architecture of the period. Cfr. Domljan, "Poslijeratna arhitektura u Hrvatskoj", 21.

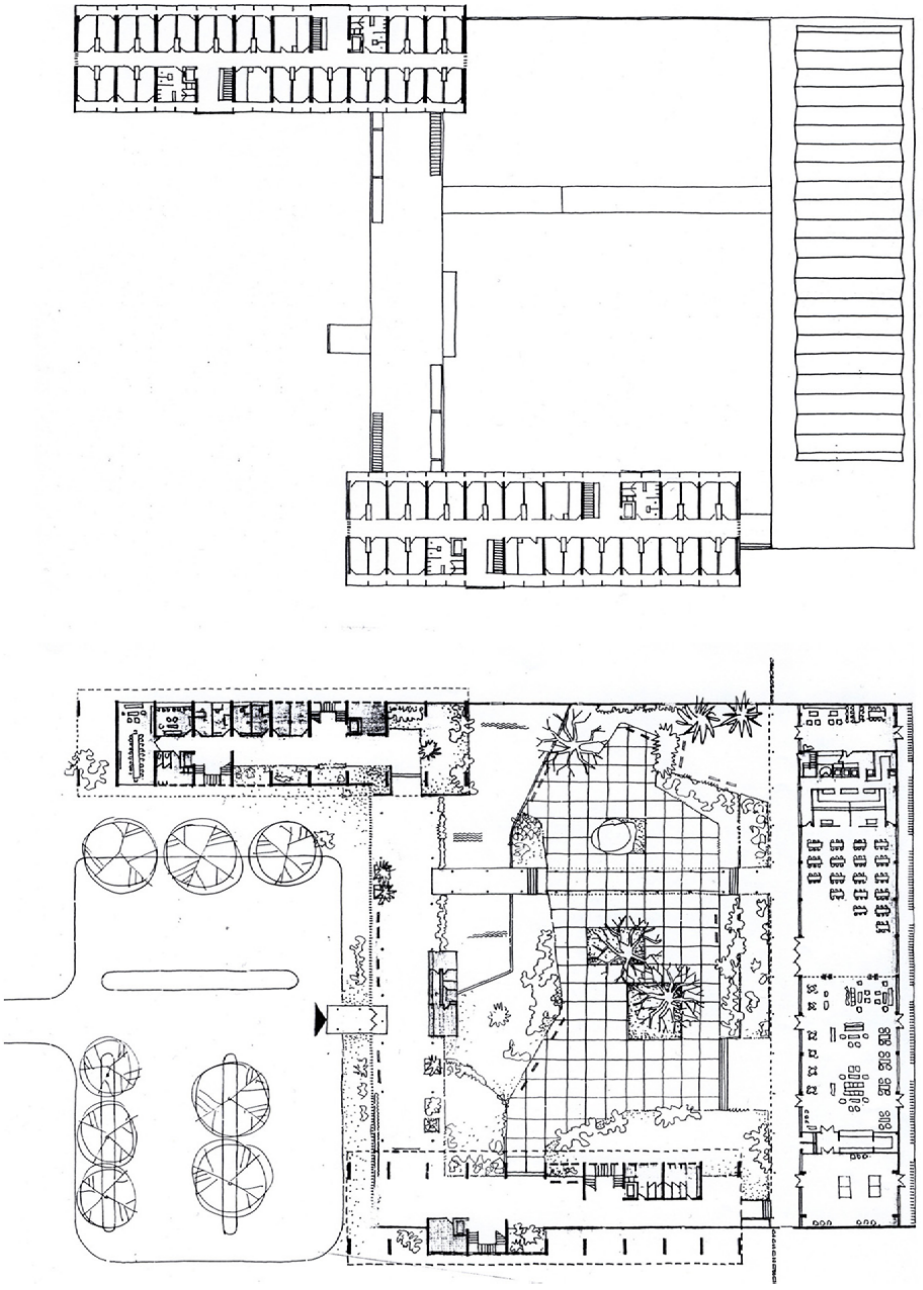

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Fig. 8

Miro Marasović and John Owusu Addo, Unity Hall – ground floor plan, typical elevation plan, 1964/project – 1968/construction (Source: M. Berček Gomboš private archive).

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Fig. 9

Miro Marasović and John Owusu Addo, Unity Hall, 1964/ project – 1968/construction (Source: Author).

Fig. 10

Miro Marasović and John Owusu Addo, Unity Hall, 1964/ project – 1968/construction (Source: Author).

Fig. 11

Miro Marasović and John Owusu Addo, Unity Hall, 1964/ project – 1968/construction (Source: Author).

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collaboration with Nikša Ciko.[57] The nature of Ciko's participation in the Senior Staff Club House project could be perceived as analogue to the one of Owusu Addo on the Unity Hall. Moreover, in this case too, Marasović must have relied on his collaborator's advanced knowledge on the climate performances of buildings in tropical areas. Ciko had arrived in Ghana even before Marasović. Starting in 1960, he worked as a member of the Public Works Department, later the Ghana National Construction Corporation in Accra. Upon Marasović's invitation, in 1962 he joined the team in Kumasi, where he accomplished a considerable part of his own architectural design work.[58] By mentioning Ciko's "tropical

57 The project documents were signed by Marasović as the "chief university architect" and Ciko as "architect in charge". After Marasović left the Development Office, the position of the "chief university architect" was entrusted to John Owusu Addo, which is registered in the documentation, although, according to the claim of the architect himself, this does not enter the realm of authorship. Cfr. Senior Staff Club House project documents, KNUST Development Office archive, Kumasi; Conversation with John Owusu Addo, 2019.

58 Even though formalized by a bureaucratic procedure of technical cooperation, Ciko's departure from Yugoslavia was a result of his own initiative which ultimately led to a permanent emigration. Cfr. Biographical notes, Zdenka Ciko private archive; Correspondence with Zdenka Ciko 2014).

Fig. 12

Miro Marasović and John Owusu Addo, Unity Hall, 1964/project – 1968/construction (Source: Author).

experience in Ghana before joining the University staff" in his subsequent letter of recommendation, Marasović will emphasize its relevance.[59]

The Senior Staff Club House was composed of two partially overlapping rectangular volumes whereby the upper one "hovers" above the lower one, complemented by the third element, a light prefabricated pergola. The composition was set on a base defining the building's ground level perimeter in contrast to the uneven terrain of the green area at the site. This example featured Le Corbusier's "principles of modern architecture" practically in all the five points. A reinforced concrete skeleton construction freed the ground floor of a two-storey building turning it into the active part of the exterior, at the same time enabling the free plan and continuous fenestration to the upper elevation. The roof deck of the lower, ground-level volume was treated as a usable space of the terrace. Unique at the campus by its composition, the building was also innovative in the domain of its climate solution evident in the design of its upper cube. Stretched between the floor and the ceiling, divided by a uniform rhythm of precast concrete vertical profiles, instead of glazing, which was to be expected in the moderate climate, the continuous strip of the outer plane was covered by a transparent canvas. The "mosquito proofing" surface flanked the "enclosed veranda", a continuous narrow transitory area positioned along all four sides of the cube. Between the veranda and the central interior space, another transparent partition was positioned, glazed, with elements to allow the circulation of the air. Completely transparent and organized centrally with the staircase in its centre the "bel étage" of the Senior Staff Club House thus kept the firmly defined boundaries of its outer volume.[60] On the other hand, the dominant climate aspect of the ground elevation was a publicly accessible deep shaded area. The well-balanced dynamic set of volumes, based on the intellectual premises that could have been conceptually related to the practices of Croatian modernism, thus found its climate response in the tropics. [Figs. 13-14-15-16-17]

The discussions above clearly indicate the issue of authorship in relation to the technical cooperation as a mode of work. While the authorship of individual buildings could be defined at the conceptual level, their project documentation development and construction supervision generally were much less under author's control. Designed within specific international circumstances, where the duration of the individual involvement often did not exceed the course of the construction (which sometimes prevented engagement at all stages of the project and particularly on construction supervision) it may be more accurate to attribute the authorship to the particular architect's office itself. But, to the contrary, in most cases, the actual nature of the design work was not bureaucratized to such an extent to restrict the creativity of the discipline. The authorship of the buildings was known and respected, which fits the character of the unique architectures it materialized.

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59 Letter of recommendation from Miro Marasović to Nikša Ciko, Zdenka Ciko private archive.

60 The part of the roof above the staircase originally allowed sunlight.

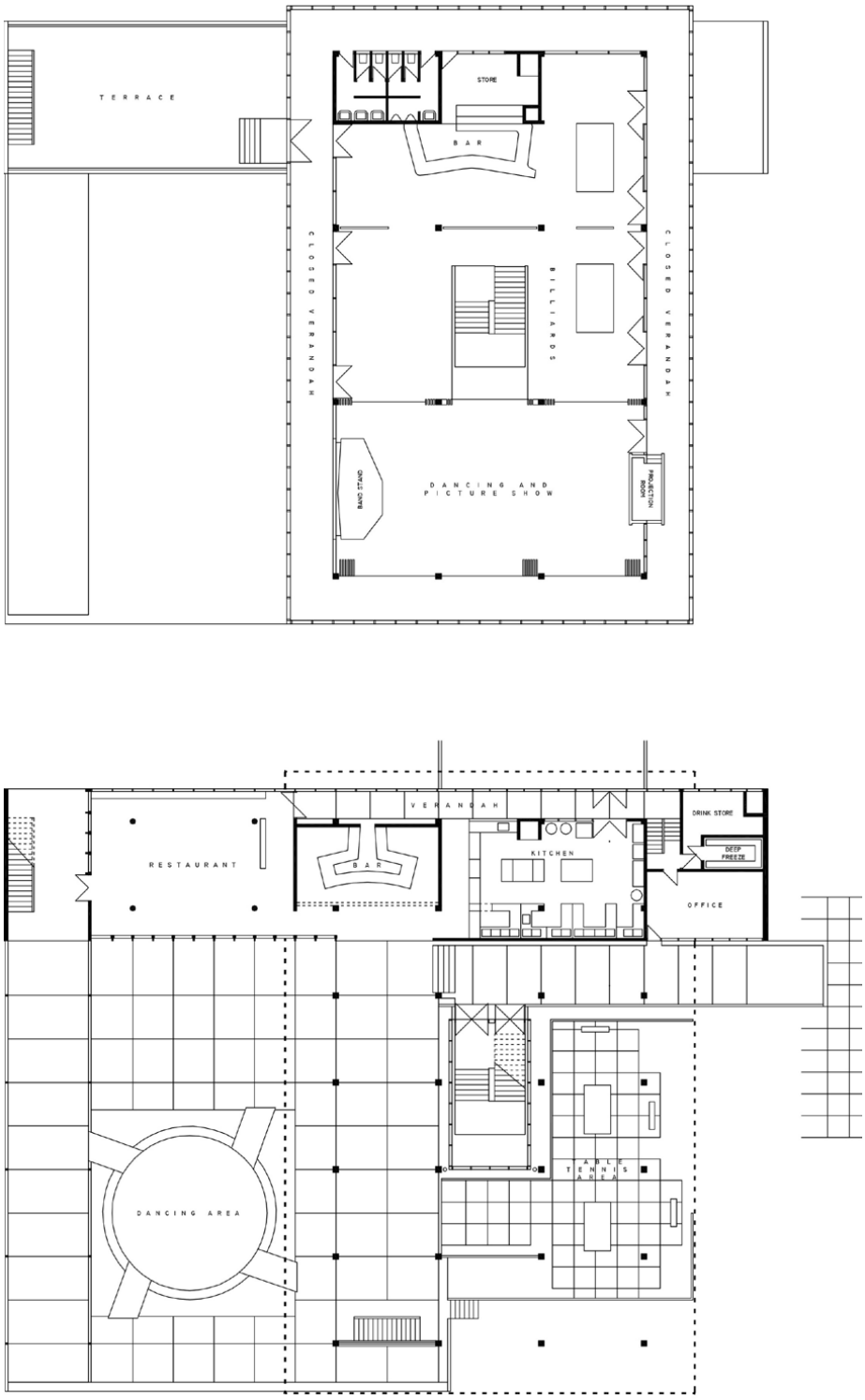

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Fig. 13

Miro Marasović and Nikša Ciko, Senior Staff Club House, 1965 – ground floor plan, first floor plan (Source: author according to the documentation of KNUST Development Office archive).

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Fig. 14

Miro Marasović and Nikša Ciko, Senior Staff Club House, 1965 (Source: Z. Ciko private archive).

Fig. 15

Miro Marasović and Nikša Ciko, Senior Staff Club House, 1965 (Source: Author).

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The works of the Croatian architects within the KNUST university campus were numerous. Besides the two buildings described above, Miro Marasović designed the academic staff apartments, an unbuilt university hospital, and a reconstruction of the stadium bleachers, because the pre-existing bleachers' canopy had collapsed just upon his arrival.[61] Africa Hall, a female dormitory designed in accordance with the Unity Hall model, but with single room wide blocks and therefore having half of its capacity, was designed by Nikša Ciko. Berislav Kalogjera was in charge of several urban planning studies, and made designs for the academic staff bungalows, the Chancellor's Residence[62] and the main University entrance.[63] Nebojša Weiner was the author of the Faculty

61 The folded shape of the new canopy referred to the form of roof of the Unity Hall's common facility area. Cfr. Conversation with John Owusu Addo, 2019).

62 Considering that the chancellor of KNUST was Kwame Nkrumah himself, the house was designed with the intention to accommodate the President during his visits to the University. Due to the recent reconstruction, its original form is currently unrecognizable.

63 Designed as reference to the Ashanti stool, the project goes in line with many examples of the post-independence practices recalling elements of local traditions. Though, the notable height and slender proportions of its construction shift the area of its perception on a more abstract level. Its structural project was signed by Arup. Cfr. Conversation with Nebojša Weiner and Zvonimir Žagar, 2012).

Fig. 16

Miro Marasović and Nikša Ciko, Senior Staff Club House, 1965 (Source: Author).

Fig. 17

Miro Marasović and Nikša Ciko, Senior Staff Club House, 1965 (Source: Author).

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Fig. 18

Miro Marasović, KNUST Stadium (Source: Author).

Fig. 19

Berislav Kalogjera, KNUST University Entrance (Source: Author).

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Fig. 20

Berislav Kalogjera, Chancellor's Residence, 1966 (Source: sites.eca.ed.ac.uk/aapwd, accessed November 17, 2017).

Fig. 21

Nikša Ciko, Africa Hall, 1967 (Source: Author).

Fig. 22

Nikša Ciko, Africa Hall, 1967 (Source: Author).

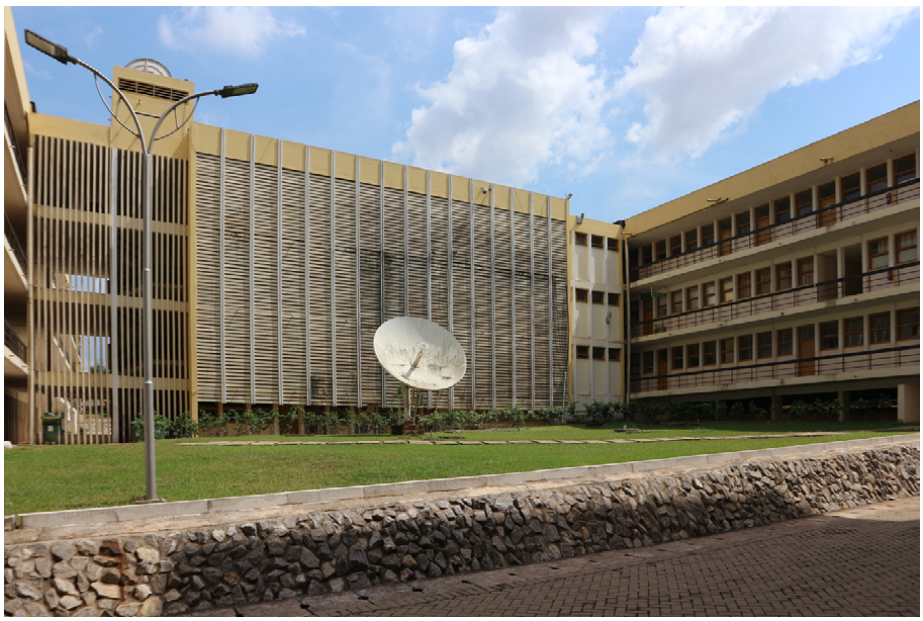

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Fig. 23

Nebojša Weiner, Faculty of Pharmacy extension, 1970 (Source: Author).

Fig. 24

Zvonimir Žagar, Building Technology Workshop, Faculty of Architecture – lamella roof structure (Source: Author).

of Pharmacy's extension, considered to be the last modernist building at the campus.[64] By some of his structural design solutions, the engineer and professor Zvonimir Žagar also contributed to the architectural palimpsest of the campus. The lamella roof structure of the Building Technology Workshop was constructed with students' participation, as part of the course he led at the Faculty of Architecture.[65] [Figs. 18-19-20-21-22-23-24]

Besides the architectural models materialized in the immediate physical environment, the necessary adjustment was to be made in terms of norms and building standards, design guidelines and professional literature, application of specific materials and products, as well as the organization of the construction process itself, mainly inherited from the British. The architectural superposition of the new generation, derived from the conceptual understanding of the previous one, ultimately made the KNUST campus a set of different approaches to architectural design in the tropics, amalgamated within a harmonious structure of the assembly.

A similar amalgam was apparent among the staff of the KNUST Faculty of Architecture, which at the time became the site of a specific radical pedagogy. Recognized by the local political and professional circles as a potent pan-African research and education centre for architecture, it was reorganized in line with London's previously developed course, thus becoming an internationally renowned institution.[66] The issue of its possible effects on the concurrent development of the campus itself is yet to be analyzed, though the mutual influence of the Faculty and the Development Office could be assumed.[67] Apart from the unquestionable informal impact of the progressive education programme on the staff of the Office within the same University institution, the facts that some of the professionals including John Owusu Addo and Zvonimir Žagar subsequently became employees of both bodies, and some minor cross-assignments sporadically occurred, corroborate the idea of their tighter interconnectedness.[68] Moreover, the Development Sub-Committee, an advisory body for development activities at the campus, included professional members of the Faculty.[69] After the fall of Nkrumah's Ghana, the school lost its international prominence.

64 Adjei, Change in trend of architectural style, 23.

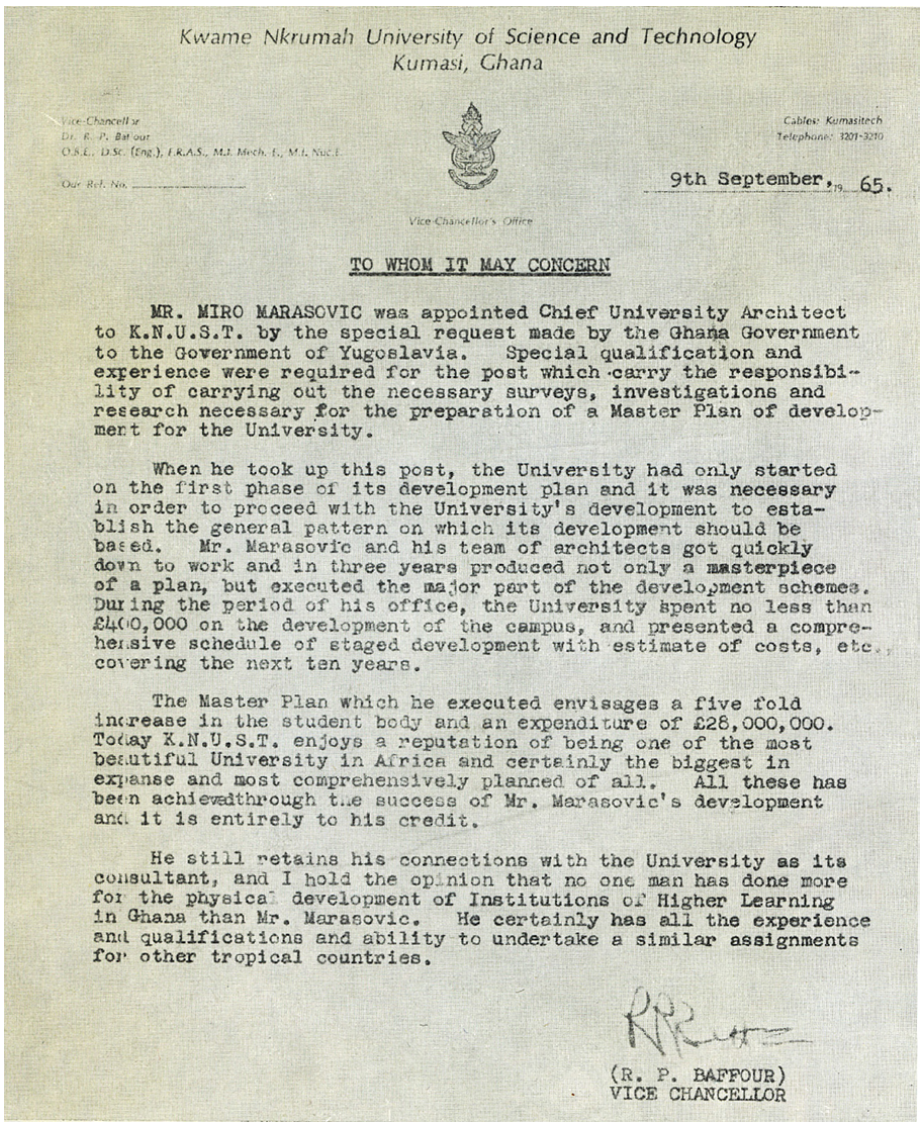
65 Correspondence with Zvonimir Žagar, 2020.

66 The reconstruction of the curriculum was carried out by Otto Koenigsberger, the head of the London's AA School of Tropical Architecture. Cfr. Ola Uduku, "Modernist architecture and 'the tropical' in West Africa: The tropical architecture movement in West Africa 1948-1970," *Habitat International* 30, no. 3 (2006): 400.

67 Even though recent reviews on the subject to some extent cast light on its potentials (radical-pedagogies.com/search-cases/f01-school-of-architecture-kumasi, accessed May 25, 2020), the relevance of this conjuncture in educating future generations of architects in Ghana, and in Africa, still awaits its scholarly elaboration.

68 For instance, Weiner's participation in the Faculty-led programmes. Cfr. Biographical notes, Nebojša Weiner private archive.

69 Weiner, *Mr. Weiner's handing over notes*, 1.



Kwame Nkrumah University of Science and Technology
Kumasi, Ghana

Vice-Chancellor
Dr. R. P. Baffour
O.B.E., D.Sc. (Eng.), F.R.A.S., M.I. Mech. E., M.I. Nuc.E.

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9th September, 19 65.

Vice-Chancellor's Office

TO WHOM IT MAY CONCERN

MR. MIRO MARASOVIC was appointed Chief University Architect to K.N.U.S.T. by the special request made by the Ghana Government to the Government of Yugoslavia. Special qualification and experience were required for the post which carry the responsibility of carrying out the necessary surveys, investigations and research necessary for the preparation of a Master Plan of development for the University.

When he took up this post, the University had only started on the first phase of its development plan and it was necessary in order to proceed with the University's development to establish the general pattern on which its development should be based. Mr. Marasovic and his team of architects got quickly down to work and in three years produced not only a masterpiece of a plan, but executed the major part of the development schemes. During the period of his office, the University spent no less than £400,000 on the development of the campus, and presented a comprehensive schedule of staged development with estimate of costs, etc., covering the next ten years.

The Master Plan which he executed envisages a five fold increase in the student body and an expenditure of £28,000,000. Today K.N.U.S.T. enjoys a reputation of being one of the most beautiful University in Africa and certainly the biggest in expanse and most comprehensively planned of all. All these has been achievedthrough the success of Mr. Marasovic's development and it is entirely to his credit.

He still retains his connections with the University as its consultant, and I hold the opinion that no one man has done more for the physical development of Institutions of Higher Learning in Ghana than Mr. Marasovic. He certainly has all the experience and qualifications and ability to undertake a similar assignments for other tropical countries.

(R. P. BAFFOUR)
VICE CHANCELLOR

Reciprocity of international experience

The question of the degree to which the specific Ghanaian experience informed the domestic practice upon the architects' return understandably captures interest. How this reflected on the careers of Croatian architects is, in this case, less perceptible in terms of design methodology and more in determining their subsequent career paths. Starting in Ghana, one could notice their repetitive involvement in the complex context of international communications. Consequently, this lead to an accumulation of knowledge in this specific working field, which over time became visible in the Croatian architectural design practice.

Though he never went back to the tropics, soon after his return from Ghana, Miro Marasović left his design practice and took over the coordination of the UN development projects in Yugoslavia and abroad.[70] Berislav Kalogjera's success-

Fig. 25
Letter of recommendation from Robert Patrick Baffour, the first Vice-Chancellor of Kwame Nkrumah University of Science and Technology, to Miro Marasović (Source: Koprojekt).

70 Physical Development Plans for the South and the Upper Adriatic Region funded by the UN in Yugoslavia in 1960s and 1970s, and a subsequent UN project in Hungary.

ful career also included his work with the UN programs.[71] Nebojša Weiner coordinated large scale, complex design projects made by international teams.[72] As members of shorter term consultant missions, Kalogjera and Weiner both repeated their assignments in the framework of international technical cooperation.[73] Nikša Ciko's subsequent emigration to Australia ended his relationship with the Croatian practice. By returning to the Zagreb Faculty of Civil Engineering, Zvonimir Žagar's professional development further evolved in the academic context, where his practical experience of pedagogical and scientific work in Ghana directly continued. [Fig. 25]

Conclusion

Though never completed, the successive contributions of architects of different backgrounds ultimately formed a structurally and architecturally consistent university ensemble. Specific approaches to the postwar modern architecture in the tropics, in this case, took on the nature of an amalgam within which the participation of Croats was permeated, layered and complex. Just as its simplified segregation from the totality is not possible, so the totality itself is strongly tied to its contributions. This is exactly the distinctiveness of the observed modality of technical collaboration, which intrinsically integrated architects into the professional and social environment of the particular country. Therefore, it is not surprising that Marasović finally got the accreditation "to undertake similar assignments for other tropical countries,"[74] a qualification rarely seen in the Croatian architectural practice.

Apart from the highly acclaimed results from the discipline's autonomy perspective, the analysed case study of this particular mode of work indicates issues related to its socio-political implications. Firstly, within the recent discourse on the work of architects from socialist countries in the geopolitical context of the Third World, it reveals the practices characteristic of the Non-Aligned alliance. Secondly, it reveals how Yugoslavia politically treated its Non-Aligned partners outside diplomatic protocols, displaying a relationship where exporting the globally dominant expertise was faced with other dominant powers, whereas its continuous and deliberate emphasis on equality as an ideological statement was desirable. Finally, even though the results of activities of highly qualified experts undoubtedly contributed to the country's reputation, it demonstrates that the ultimate stratum of collaboration was a clearly apolitical, exclusively professional platform - the platform where success depended on the quality of the individual work and which enabled a common ground for interactions and even encouraged friendships.

71 Collaborations on the UN-sponsored Physical Development Plan for the South Adriatic Region and leading Mediterranean Regional Activity Centre within the framework of the UN Environment Programme.

72 Babin Kuk tourist hotel complex in Dubrovnik, an outcome of the UN-sponsored Physical Development Plan for the South Adriatic Region.

73 Kalogjera in Cyprus, Weiner in Zimbabwe and Cuba.

74 Letter of recommendation from Robert Patrick Baffour to Miro Marasović.

The need for foreign personnel in developing countries was most stressing right after their independence, which was regularly and effectively accommodated by Yugoslavia, in line with its own political interests. The change in trends of technical cooperation, however, occurred in the early 1970s as a result of the events on both sides. In Yugoslavia, the living standard improved. The developing world, on the other hand, suffered a number of political and economic crises causing social instability. The generational shift and decentralization of Yugoslavia further weakened the integrity of the non-alignment policy, which lost its enthusiasm, proved to be less pragmatic than expected. This redirected technical cooperation towards partners who were able to secure economically and socially stable conditions for assignments. Yugoslav experts, who were exceptionally well received in the developing world, are nonetheless still well remembered.

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