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Architectural Intelligence and Scarcity-Driven Design in the 1960s Yugoslavia

Introduction: Notes on Architectural Intelligence

In 1965, the architects Alison and Peter Smithson predicted that in some forty years – that is, in 2005 – architectural records would contain documents not on “buildings” but on “built-places,” and that the documents themselves “will be mostly air views, sequential photographs and system explanations.”¹ What the Smithsons predicted, clearly, was not the future of today, with its archipelago of singular built-objects floating in the ocean of informal built-places of the world city. Rather, they reflected ideas about the built environment and the nature of the architectural knowledge of their own era that was brought about by the major upscaling of spatial production. The design practice of which they spoke has been retooling itself since, from analog to system and, closer to our own time, to digital modes. In this way, the correlation of architecture to production and productivity of work has been an underlying feature throughout the modern era. In parallel, the means of documentation geared up to record the rescaling process from static to dynamic explanation and imaging. As it were, the camera had been taken off the tripod and onto the moving crane then further to satellite imaging devices, and the drawing pen has given way to the keyboard and an algorithmic set of procedures.

In this text, I explore a particular case of architectural method and practice which is argued to have been advanced in response to rising demands for the industrialization of construction in conditions of relative economic and technological underdevelopment in 1960s Yugoslavia.² In the current age of

digital design and fabrication, it may seem outdated to look back at changes in analog design methodology toward the industrialization of construction. Thus, rather than exploring the well-rehearsed narrative of a technological shift or its outcomes, I will focus on the shift in what I propose to call architectural intelligence. The multiple meanings of “intelligence” apply for architectural intelligence also: the capacity for understanding, the action or fact of mentally apprehending knowledge of something, information, the mutual conveyance of information, the obtaining of information and the like.³ Critical for both analog and digital design and fabrication – that is, for both high-end and scarcity-driven low-technology construction – architectural intelligence is becoming increasingly relevant for contemporary practices operating in a world polarized by the uneven development of global capitalism.

As with any intelligence operation, architectural intelligence relies on gathering information and evidence, deciphering documents and codes, and deploying acquired knowledge cleverly in the right moment. Its sources are both internal to the design discipline and interdisciplinary. Its use, likewise, may be either internal or mediatory between disciplines or circumstances, access to knowledge, technology, power and such. My aim is to find points of intersection where architectural intelligence makes possible shifts between disparate worlds, even opposite ones: developed or developing, central or peripheral and mainstream or marginal, first or second or third worlds, North-South, West-East, and so forth. In this, I propose to look specifically into operational, political and design intelligence deployed in finding an innovative method and the practice of carrying out state-of-the-art system design for efficient low-budget and low-technology construction on sites located in what were among the most peripheral and underdeveloped municipalities in socialist Yugoslavia in the 1960s, namely the towns of Prizren and Ulcinj.

Operational Intelligence: Collaborative Troika

The question of operational intelligence concerns findings about working models that are effective, valid or operative in a given situation. It is commonly considered that the shift of architectural focus on productivity and standardization that gave rise to mass construction in the second world had been spearheaded by mainstream state actors; that is to say, ideologues of the socialist economy and politicians, along with executives in major state-planning offices and construction enterprises. Across the socialist landscape, a series of nationally enacted five-year plans attested to this, as did speeches and pronouncements by politically engaged party leaders and building-sector ministers, captains of the state construction sector, chief planners or architects. I would propose that the advancement in this sector toward system-

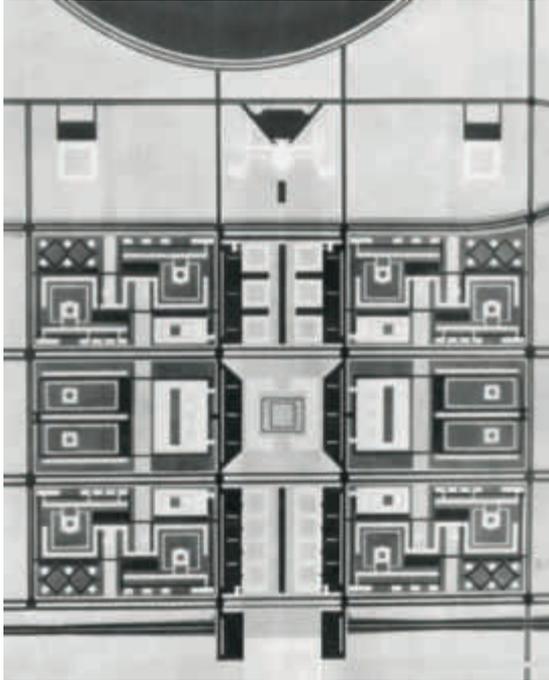


fig. 1 Uroš Martinović, Milutin Glavički, Leonid Lenarčič, Milosav Mitić and Dušan Milenković, plan of the New Belgrade Central Zone, 1960, in Aleksandar Đorđević, “Urbanističko rešenje centralnog dela Novog Beograda,” *Arhitektura urbanizam*, 1: 2 (1960), 4.

design knowledge and production was due to a key catalyst which came from the sourcing of specialist knowledge of alternative collectives of practitioners, researchers, academics and individual expert architects. More to the point, I would propose that these alternative practices provided key intelligence, as it were, of postwar architecture. Marginalized and operating without the system of state planning and design offices or construction companies, they ran sideshow setups – at home, in research institutes or in university labs – which resulted in their lateral impacts being analogous to those of the historical avant-gardes.⁴

In postwar socialist Yugoslavia, one of the central projects of sociopolitical and spatial rescaling had been the planning and construction of New Belgrade (fig. 1), which showcased not only the overall concept of socialist urbanization, mass-housing design and construction, but the conservatism and inertia intrinsic to large undertakings of that kind.⁵ It does not come as a total surprise, then, that we would find vigorous and innovative planning, design and construction methods elsewhere; that is to say, tested in places far from the centers of political power and finance, out of sight but not out of designers’ minds. To corroborate this proposition, I will later discuss two low-tech, low-cost, fast-track projects realized at the beginning of the 1960s in Ulcinj and Prizren, small cities situated in the liminal multiethnic zones

along the state border between the former Yugoslavia and Albania.⁶ I will focus on three crucial operational points in these two projects, unique for their time and place and introduced by their architect Milan Zloković in co-authorship with his son Đorđe Zloković, architect and structural engineer, and his daughter, architect Milica Mojović (*née* Zloković).⁷ The projects discussed are the Teachers' School (1959–1960) and Pedagogical College (design 1965, 1968–1969; construction 1969–1970) in Prizren (fig. 2),⁸ and the tourist colony Hotel Mediterranean in Ulcinj (design 1959–1961; construction 1962–1963 (fig. 3), first phase, and 1963–1964).⁹

First, operative methodology in both projects is shifted from object to system design and from site to landscape/townscape planning. Second, both projects introduce consistent dimensional modular coordination throughout, as well as prefabricated, assembled types of construction. The Prizren project plans, for instance, are annotated solely with grid numbers and letters indicating modular positions and relations, with no dimensions annotated anywhere on the drawings. This innovation not only made design documentation more efficient to produce but decreased error margins and enabled direct communication on multilingual (Serbo-Croat and Albanian) construction sites. The Ulcinj project, on the other hand, combined local stonemason handicraft with efficient use of a very limited number of simple prefabricated elements; to great cost-cutting effect, needless to say. Third, I would point to the “elastic typification” as an effective method of socio-spatial and aesthetic differentiation, invented through typology studies of accommodation units for the Ulcinj project.¹⁰

The decisive moment that triggered this particular path to innovation, I would argue, was the change of operational mode; that is, the restructuring of a sole-practitioner prewar type of private architectural-design practice of Zloković toward an effective collaborative teamwork with his son and daughter in the organizational *troika* mode, and the subsequent operationalization of detail design and research stages through the Institute of Architecture and Urban Planning of Serbia (IAUS). I would contend that the chosen mode of practice relates closely to Zloković's advanced research of modular coordination and his role in the federal bodies for standardization that led to meetings and intersections with colleagues through his participation as a delegate in international organizations and networks including the International Organization for Standardization (ISO), the European Productivity Agency (EPA), the Congress of the *Conseil International du Bâtiment* (CIB) and the International Modular Group (IMG).

For the purposes of the present study, I would single out relations between Zloković, Guiuseppe Ciribini¹¹ and Konrad Wachsmann¹² that are argued to

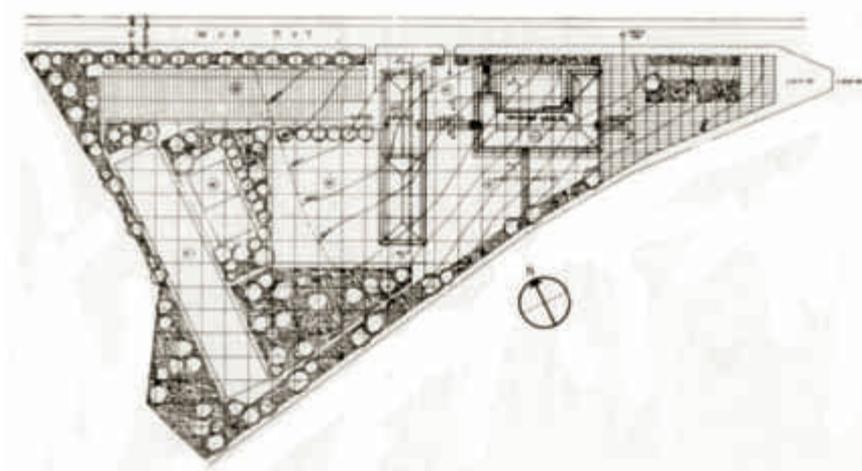


fig. 2 Milan Zloković, Đorđe Zloković and Milica Mojović, Teachers College in Prizren, 1959–1960. Site plan, in Zloković, Mojović and Zloković, “Nova učiteljska škola u Prizrenu: studijska primena modularne koordinacije mera na projektat zgrade montažnog tipa,” *Zbornik radova IAUS*, 1 (1961), 16.

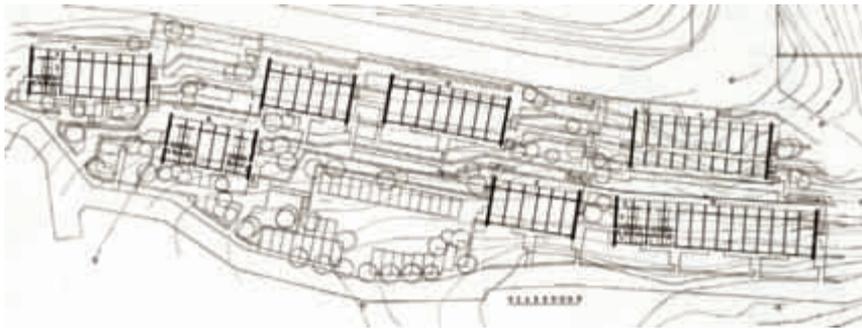


fig. 3 Zloković, Zloković and Mojović, Tourist Colony Hotel Mediterranean in Ulcinj, 1959–1961, 1961–1964. Site plan of phase 1 showing structure of accommodation pavilions superimposed on the topography, in Milan Zloković, “Novo turističko naselje u Ulcinju,” *Arhitektura urbanizam*, IV: 22–23 (1963), 49.

have been decisive for procuring operational intelligence in the Prizren and Ulcinj projects. The direct intersections of the three experts are recorded in several instances, outlined here: as members of IMG and CIB, Ciribini and Zloković met at regular intervals in international forums in the mid-1950s and mid-1960s; along with Wachsmann, all three crossed paths as authors of research articles in the thematic issue of the journal *La Casa* published in 1957 by the Italian National Institute for the State Employees (Istituto nazionale per le case degli impiegati dello Stato, INCIS).¹³ As guest lecturers, all three took part in the course on current culture of industrialized construction at

the University of Bari Faculty of Engineering in 1963–1964; and as authors they contributed three consecutive chapters in the book on industrialization of construction, resulting from that same course and published in 1965.¹⁴ Comparative analysis of Zloković's research in modular design, Ciribini's application of industrial-process programming in building construction, and Wachsmann's model of collaborative teamwork, lead me to the conclusion of an operational interrelation of three theories that led to their direct application in the Prizren and Ulcinj projects.

The adaptation of the model of the industrial-process programming applied in building, as advocated by Ciribini, is seen as the key to efficient construction, especially in the case of Ulcinj. Programming was central for achieving the goal of having buildings constructed in record time in peripheral locations with no rail connection and very poor road-traffic connectivity, such as Ulcinj in the 1960s. Consequent to building works' programming based on that used in industrial production, in Ulcinj the construction and fitting out of seven three-story accommodation pavilions of almost five-hundred beds in hotel category "B" were finalized in six months, from the end of the tourist season in October 1962 to the beginning of the next in May 1963. This time-scale owed much to the tight design and supervision operation devised by Zloković's team, which is comparable to the teamwork model concurrently proposed by Wachsmann (fig. 4).

The proposal by Wachsmann envisages a collaborative team of twenty-one participants gathered around one general problem, organized in seven subgroups formed by three members – "team leader," "specialist," "assistant" – each working consecutively on seven separate, specific problems with discussion and coordination between the subgroups at seven interregnum points.¹⁵ In the schematic diagram presented in the lecture held in Bari, Wachsmann lists the following particular problems: communications, material and method, construction, modules, elements, installations, and designs in the sense of *delineamento*, with a timescale allowing for discussion and coordination between topics and subgroups on a third day after each of seven serial two-day work phases, followed by final discussion, subsequent elaboration and critical presentation of results which involves the whole team.¹⁶

Zloković's model is downsized to a given situation of a three-member family team, a troika working from home. Comparative insights demonstrate that the troika addressed seven particular themes, effectively switching decision-making roles as fitting to the design topics at hand. According to conversations I had with Đorđe Zloković in 2013 and 2014, Milan Zloković is likely to have been the team leader in charge of topic 1, typology and modular coordination; of topic 2, method and materials; and of topic 3, socio-cultural,

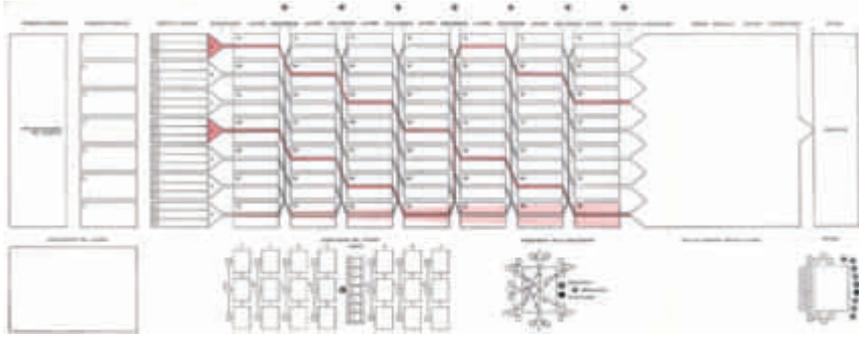


fig. 4 Konrad Wachsmann, “Schema del piano di lavoro collegiale di un ‘team’ anonimo,” *La Casa*, 4 (1957), n.p.

climatic and environmental factors. Đorđe Zloković, team specialist in structural engineering, was team leader in charge of topic 4, structure and seismic; topic 5, construction, bill of quantities and site supervision; and topic 6, interior and furniture design. Milica Mojović, an architect specializing in descriptive geometry and a team assistant, was principal team leader in issues of topic 7, drawing production. The integration of teaching and research figures into both models.

Wachsmann had developed a method of study and research in collegial groups of three that correlates to the troika members, who were simultaneously carrying out research and design at home and detail design in IAUS and were teaching and/or subspecializing at the University of Belgrade: Milan Zloković as full professor of architectural design at the Faculty of Architecture, Đorđe – having graduated in architecture (1951) and civil engineering (1955), and having defended his doctorate in structural engineering in architecture (1961), and as assistant professor in Structural Systems at the Faculty of Architecture; and Milica Mojović as teaching assistant at the Faculty of Mechanical Engineering and postgraduate in Descriptive Geometry at the Faculty of Architecture. To summarize, operational intelligence of industrial-process programing and complex decision-making were correlated to the practical experience of carrying out state-of-the-art programs in Prizren and Ulcinj by Zloković’s team, not by reduction of theory but through its rigorous rationalization.

Political Intelligence: Self-Management

The operational innovation outlined above, as my investigation of the political context indicates, was consequent to constitutional, legislative and governance changes introduced in Yugoslavia in the mid-1950s. Correlative to that, I would

propose that in Prizren and Ulcinj, political intelligence engendered certain design intelligence while innovative design engendered new forms of territorial governance. Most notably, the Constitutional Law of Yugoslavia, enacted in 1953, introduced local authorities' right to communal self-management. Subsequently, the new legislation on municipal authority over communal urban-planning issues was passed in 1957, bestowing decision-making power to the municipalities – independent of state and federal levels – over questions of priority development planning and financing, and economic, communal, social and cultural matters of common interest.¹⁷ Thus, in planning matters, the initiative, financing and executive decisions were effectively transferred from the level of republic or federal state to the communal level, through institutes of self-management supported by the local economy, enterprises, citizens and associations of citizens. Consequently, local communities gained the authority to pass general master plans for areas, places and towns within the municipal boundaries and to establish municipal-planning councils and town-planning departments, and for related matters.

The municipalities of Prizren and Ulcinj exercised this new legislative right of territorial self-management by a municipal development initiated and funded locally in the common interest: the development of middle and higher education in Prizren, and of tourism in Ulcinj. This explains how in 1959 local authorities could decide independently to invite an architect of their own choice to draw proposals, then could subsequently commission the architect directly to carry out the projects that were approved locally (fig. 5). As noted by the architects Zloković, Zloković and Mojović,¹⁸ in Prizren, the decision by local community authorities was made on the basis of the rationality of projects, the speed of construction and the lowest construction-cost proposals, making the project a pioneering one across Yugoslavia for a consistent modularly coordinated, prefabricated assembly construction. This also explains the kind of political intelligence needed to procure employment of this particular co-authorial team as independent architects in charge.

Milan Zloković had been one of the most prominent modern architects in Serbia and the former Kingdom of Yugoslavia since the late 1920s.¹⁹ Despite his extensive design and construction experience in the interwar period, during which he realized more than forty buildings, some of outstanding significance, he was completely ignored in the postwar period by the system of state design offices and construction enterprises, and was not involved in projects for wide-scale urbanization of the country. In fact, after 1945, even though more than twenty of his competition entries were awarded, commissioned or honorably mentioned, he only realized the projects in Prizren and Ulcinj. This exclusion from the process of mass construction in the postwar period



fig. 5 Zloković, Zloković and Mojović, Teachers College in Prizren. Panorama from the period, the college building in the mid-ground. Courtesy of Foundation Milan Zloković, Belgrade.

was partly a consequence of his interwar practice, as he had been seen as a representative of a deposed system. This was partly due to the architect's own reluctance to forfeit individual authorial practice during the period of the dominant state sector and collectivistic organization models.

The political decision for territorial self-management then opened the possibility of independent architectural agency and of direct work for a local community. The early 1950s also brought about a liberalization of professions in Yugoslavia, including that of architecture.²⁰ A number of prominent architects across the country set up individual design offices, societally owned but organizationally run as a master/team leader type of practice that could enter into the (socialist) market competition. Thus, direct contracts between client-municipality and expert architect enabled both parties to act independently, free from top-down directives from the state or federal levels. In addition, a growing segment comprising individually authored or specialist design and academia on one side and the mass-construction sector on the other was gradually taken over by a number of interdisciplinary offices that combined research and design. The architects Zloković, Zloković and Mojović took advantage of this change by contracting detail-design commissions with IAUS, the first such institution in Belgrade, established by the University of Belgrade Faculty of Architecture in 1954. To sum up, a clever setup of political

intelligence and self-management in the right moment was decisive for the successful acquisition of the projects in Prizren and Ulcinj.

Design Intelligence: Architectural Theory

Finally, I would propose that the principal source of design intelligence or method lay in an architectural theory that should be comprehended across the horizon of the discipline's history. Over the postwar period, when his private practice had ceased, Milan Zloković dedicated himself to academic and research work and gradually built up original research that was published in some twenty articles. In sum, this work led to something that I would call a fully elaborated aesthetic theory of architecture, synthesized under the title *Modular Coordination*; it was published in Italian in 1965 as a chapter in the book *Industrializzazione dell'edilizia* (fig. 6).²¹ As has been discussed in more detail in previous research, the theory argues for relating the proportional systems of the past with the contemporary notion of modular coordination; its aim is to prove the elasticity of the rational compositional method and its capacity for varied architectural interpretation.²² Zloković tests his hypothesis through a series of geometric, numerical and diagrammatic analyses of the proportional systems of historical case studies and their translation into the *lingua franca* of the International Standards Organization. Indicative in this respect is his article published in 1960, testing a method of integrating Le Corbusier's "Modulor" as foot-and-inch proportional system with the metric-based international modular system. This is derived by a series of recurrent numbers as means of translation, through comparative analysis of cases ranging from the Vitruvian-man interpretations by Leonardo da Vinci and Gio. Antonio Rusconi to contemporary proposals by Ernst Neufert, Frederick Kiesler and himself.²³ In the 1950s, Zloković's research and analytical drawings were correlative to the method and content of the exhibition *Studi sulle proporzioni* by Carla Marzoli and architect Francesco Gnechi Ruscone at the ninth Milan Triennale, in 1951.²⁴ It corresponded with a consensus – all too brief – of architects, art historians and artists of the period who gathered as participants at the First International Congress on Proportion in the Arts, held concurrently in Milan,²⁵ and who shared the view that some kind of controlling or regulative system of proportion was desirable. By reading the unpublished papers from the congress that Zloković got hold of through contacts with Ms. Marzoli in Milan,²⁶ he felt confident to continue analogous research of compositional methods despite criticism and opposition from his peers in Yugoslavia.

Design intelligence in both of the projects discussed in this article drew directly from such research into rational compositional methods. Due to



fig. 6 *Industrializzazione dell'edilizia* (Bari: Dedalo, 1965), dust-jacket drawing by Milan Zloković. Courtesy of Foundation Milan Zloković, Belgrade.

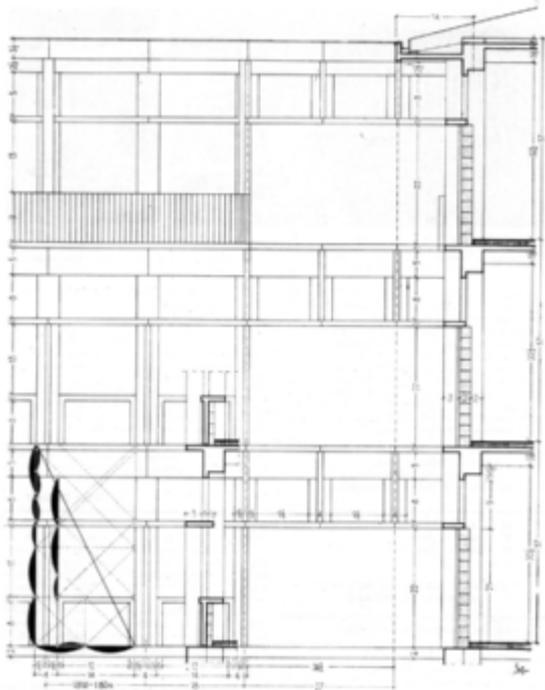


fig. 7 Zloković, Zloković and Mojović, Teachers' College in Prizren. Study of facade proportions, drawing by Milan Zloković, in Zloković, Mojović, and Zloković, "Nova učiteljska škola u Prizrenu," 21.

extreme budget constraints, the architectural articulation of an otherwise basic volume of the Prizren school relies on what the architects called “final surface factor,”²⁷ that is, the contour modulation of prefabricated facade elements, assembled with no finishing work needed. The proportional relations of the basic facade unit were tested by a proportional diagram (*tracé régulateur*) of the elements and their relations, and were taken as a basis for com-



fig. 8 Zloković, Zloković and Mojović, Tourist Colony Hotel Mediterranean in Ulcinj. Panorama from the period, the colony in the mid-ground (Hotel Co-op, penultimate building on the right). Courtesy of Foundation Milan Zloković, Belgrade.

positional and structural elaboration of the overall external appearance of the building. It is interesting to note that the ratios 9:5 and 8:5 in the Prizren project were derived from Zloković's study of the Roman compass as a proportioning tool (fig. 7). The Ulcinj project, on the other hand, consists of ten separate buildings arranged on a rather topographically complex site²⁸ (fig. 8). The design intelligence there originated from the typology study of accommodation units that was to be carried out prior to the design stage by Milan and Đorđe Zloković who were commissioned with this research by the local communities of Budva and Ulcinj in Montenegro.²⁹ The resulting elements' "typification" in the Ulcinj colony combined criteria of "compositional efficiency" (modular coordination), and "maximum economy" (minimum expenditure to maximum effect).³⁰

Concluding Notes

The two respective projects discussed in this chapter – that is, the higher education school in Prizren and the tourist colony in Ulcinj – are directly related to the debates on construction which took place in and around the international framework of European productivity and standards organizations at the end of the 1950s and the beginning of the 1960s. The resonances of

this debate gave rise to a worldwide organizational restructuring of the construction industry as a whole and of the professions of architecture and engineering specifically; mass construction then became a global phenomenon. In other words, the change in scale of spatial production as a consequence of postwar societal changes was instituted worldwide by an effective agenda to position architectural, engineering and construction management practices in respect to system design, programing and multidisciplinary team work – an agenda that arose from growing demands of productivity, standardization and industrialization of construction. In parallel, the tremendous changes that were brought about by societal transformations after the Second World War caused a significant increase in social mobility and an empowerment of local actors on both sides of the polarized Cold War world. This chapter has aimed to explore alternative design-practice modes and innovative design strategies that emerged in 1960s Yugoslavia under the political, ideological, economic and social constraints of the socialist period. The projects discussed demonstrate alternatives regarding the design itself, and regarding the diversity of professional practice. In sum, it can be argued that the two cases demonstrate the full spectrum of architectural intelligence as its key agencies established through dialectical relations of operational intelligence, political intelligence and design intelligence. They also illustrate, I would propose, connections between public and private sectors that may be worth considering in the transitional contexts of today.

Endnotes

- 1 Alison Smithson and Peter Smithson, “The Heroic Period of Modern Architecture,” *Architectural Design*, XXXV-12 (1965), 587–637 (p. 590).
- 2 The chapter ensues from the present author’s introductory lecture titled “Modular Design: Architect Milan Zloković and Discourse of Industrialised Construction,” held on November 29, 2014, at the international symposium “East West Central 02. Re-Scaling the Environment: New Landscapes of Design, 1960–1980” at ETH Zurich, Department of Architecture, Institute for the History and Theory of Architecture, Chair for the Theory of Architecture: Prof. Dr. Ákos Moravánszky. The lecture and the chapter expand on, re-examine and elaborate on the modular design thematic initially presented in a lecture by the same author at the international symposium “Modular Design: Prefabricating the Post-war Landscape,” at the *Politecnico di Milano, Dipartimento di Architettura e Studi Urbani* on October 22, 2013, and in the article pending publication: Ljiljana Blagojević, “Modernism of Scarcity: Architect Milan Zloković and Debates on Industrialization of Construction in the 1950s and 1960s,” *Le culture della tecnica* 27 (2016): forthcoming.
- 3 Based on *The Shorter Oxford English Dictionary on Historical Principles*, 1973.

- 4 See Ljiljana Blagojević, "Collectives: Notes on Alternative Design Practices of the Second World," in *Lifting the Curtain*, eds. Samu Szemerey, Igor Kovacevic and Piotr Bujas (Liège: Fourre-Tout Editions, forthcoming in 2016).
- 5 Initially envisaged as the new administrative capital of the Yugoslav Federation – with the seats of the Presidency of Federal Government and the Central Committee of the Communist Party of Yugoslavia located at its center – New Belgrade was planned as a modern, functional city for some quarter-million inhabitants. See related research by the author: Ljiljana Blagojević, "The Residence as a Decisive Factor: Modern Housing in the Central Zone of New Belgrade," *Architektúra & Urbanizmus: Journal of Architectural and Town-Planning Theory*, 46: 3–4, 228–249; Ljiljana Blagojević, "Novi Beograd: Reinventing Utopia," in *Urban Revolution Now: Henri Lefebvre in Social Research and Architecture*, eds. Łukasz Stanek, Christian Schmid and Ákos Moravánszky (Farnham, London: Ashgate, 2014), 301–318. See also Ljiljana Blagojević, *Novi Beograd: osporeni modernizam* (Belgrade: Zavod za udzbenike, 2007).
- 6 Prizren, ancient Theranda, is located on the north side of the Albanian border along the Prokletije Mountains and Ulcinj, the ancient Olcinium is on its south side, near the confluence of the river Bojana into the Adriatic Sea.
- 7 Prof. Milan Zloković, architect (1898–1965), academician Đorđe Zloković of the Serbian Academy of Sciences and Arts (b. 1927), architect and civil engineer, and Prof. Dr. Milica Mojović, architect (b. 1932).
- 8 Milan Zloković, Milica Mojović and Đorđe Zloković, "Nova učiteljska škola u Prizrenu: studijska primena modularne koordinacije mera na projektat zgrade montažnog tipa," *Zbornik radova IAUS*, 1 (1961), 15–22; "Viša pedagoška škola u Prizrenu," *Zbornik radova IAUS*, 6 (1972), 38–39.
- 9 "Turističko naselje u Ulcinju," *Zbornik radova IAUS*, 5 (1970), 216–223.
- 10 For a detailed analysis, see Ljiljana Blagojević and Marija Milinković, "The Beauty of Production: Module and Its Social Significance," *arq: Architectural Research Quarterly*, 17:3–4 (2013), 253–268.
- 11 Prof. Dr. Giuseppe Ciribini (1913–1990), engineer; see Daniela Bosia, ed., *L'opera di Giuseppe Ciribini* (Milano: Francoangeli, 2013).
- 12 Prof. Konrad Wachsmann (1901–1980), architect.
- 13 Giuseppe Ciribini, "Introduzione all'applicazione di metodologie industriali nella costruzione"; Konrad Wachsmann, "Per una industrializzazione della produzione"; Milan Zloković, "Interpretazione modulare degli ordini del Vignola," in *La casa. Quaderni di architettura e di critica*, III:4 (1957), 81–87, 120–137, 162–169.
- 14 Ciribini, "Il processo dell'industrializzazione edilizia: problemi e sviluppi"; Wachsmann, "La complessità delle decisioni in architettura"; Zloković, "La coordinazione modulare," in AA.VV. *Industrializzazione dell'edilizia* (Bari: Dedalo, 1965), 117–127, 129–138, 139–196. For a more detailed account of the contacts between the three experts, see: Ljiljana Blagojević, *Itinerari: Moderna i Mediteran. Tragovima arhitekata Nikole Dobrovića i Milana Zlokovića* (Belgrade: Službeni glasnik and Arhitektonski fakultet, 2015), 146–155.
- 15 Wachsmann, "Per una industrializzazione della produzione," 123–125.
- 16 Wachsmann, "La complessità delle decisioni in architettura," 135.

- 17 Vladimir Bjelikov, "Komuna kao predmet prostornog planiranja," *Zbornik Arhitektonskog fakulteta Univerziteta u Beogradu*, 5 (1962), 3.
- 18 Zloković, Mojović and Zloković, "Nova učiteljska škola u Prizrenu," 15.
- 19 On Zloković's interwar architecture, see Ljiljana Blagojević, *Modernism in Serbia: The Elusive Margins of Belgrade Architecture, 1919–1941* (Cambridge, Mass.: MIT Press in association with the Harvard University Graduate School of Design, 2003), passim. Also, by the same author, see Blagojević, *Itinerari: Moderna i Mediteran. ...*, passim.
- 20 For an account of the changing forms of practice in the postwar period, see the case of APZ in Zagreb, a hundred-employee central-design office in Croatia, formed in 1947 and dissolved in 1954 by splitting into fourteen design offices led by prominent individuals; see Darko Venturini, *Arhitektonski projektni zavod – APZ: prilog poslijeratnoj hrvatskoj arhitekturi* (Zagreb: APZ, 1982).
- 21 Zloković, "La coordinazione modulare."
- 22 Blagojević and Milinković, "The Beauty of Production," passim.
- 23 Zloković, "Integriranje 'Modulor'-a u internacionalni modularni sistem," *Arhitektura urbanizam*, 6 (1960), 28–31.
- 24 See Maria Netter, "Panorama des Formexperiments an der 9. Triennale von Mailand," *Werk*, 38:9 (1951), 257–262; Alfred Roth, "Das Wohnquartier QT8 und die Triennale von Mailand," *Werk*, 38:9 (1951), 263–265; and Alfred Roth, "Erster internationaler Kongress über die Proportionen in der Kunst (in Mailand am 27., 28. und 29. September 1951)," *Werk* 38:11 (1951), 154–155. See also Francesesco Gneccchi Ruscone, *Storie di Architettura* (Milano: Francesco Brioschi Editore, 2015), 47–48, 93–96, tables 12, 13.
- 25 Rudolf Wittkower, "The Changing Concept of Proportion," *Daedalus* 89:1 (1960), 199–215 (p. 210).
- 26 Milan Zloković, "Antropomorfni sistemi mera u arhitekturi: njihovo integriranje u kompozicijske metode prošlosti, posebno objašnjeno na nekoliko karakterističnih primera drugostepene kamene plastike Boke Kotorske, Korčule i Dubrovnika," *Zbornik zaštite spomenika kulture*, IV–V (1955), 181–216.
- 27 Zloković, Mojović, and Zloković, "Nova učiteljska škola u Prizrenu," 20.
- 28 The colony continues along the natural amphitheater rising above the beach, lined along roughly the same isohypsis with the Hotel Co-op (a modernist hotel from the interwar period, that was demolished in the 2000s), that offered communal and restaurant services to pavilions of the first phase. On the exceptional project of the hotel, see: Ljiljana Blagojević and Borislav Vukićević, "Hotel Ko-op u Ulcinju arhitekata Hinka Bauera i Marijana Haberlea," *Prostor* 21:1 [45], 14–25.
- 29 Milan Zloković and Georges Zloković, *Coordination modulaire appliquée en architecture. Types touristiques en Yougoslavie, Côte Adriatique – Littoral Monténégrin* (Belgrade: Institut Yougoslave pour la Productivité du Travail, 1961), four pp. separate extract.
- 30 *Tipizzazione, efficienza compositiva, massima economia*; see: Zloković, "La coordinazione modulare," 190–192.

Ákos Moravánszky, Karl R. Kegler (Eds.)

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