

RESEARCH ARTICLE

# Hegemony by Adaptation: Decolonizing Ghana's Construction Industry

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## Abstract

This paper discusses competing visions of the decolonization of Ghana's economy during the first decade of the country's independence from Britain (1957–1966), and the agency and horizon of choice available to the Ghanaian decision-makers in charge of implementing these visions. It focuses on Ghana's construction industry, both as an important part of the national economy and as a condition for Ghana's broader social and economic development in the context of colonial-era path-dependencies and Cold War competition. By taking the vantage point of mid-level administrators and professionals, the paper shows how they negotiated British and Soviet technological offers of construction materials, machinery, and design. In response to Soviet claims about the adaptability of their construction resources to Ghana's local conditions, the practice of adaptation became for Ghanaian architects and administrators an opportunity to reflect on the needs, means, and objectives of Ghana's construction industry, and on broader visions of Ghana's economic and social development. Beyond the specific focus on the construction industry, this paper conceptualizes the centrality of adaptation in enforcing technological hegemony during the period of decolonization, and discusses African agency beyond the registers of extraction and resistance that have dominated scholarship on the global Cold War.

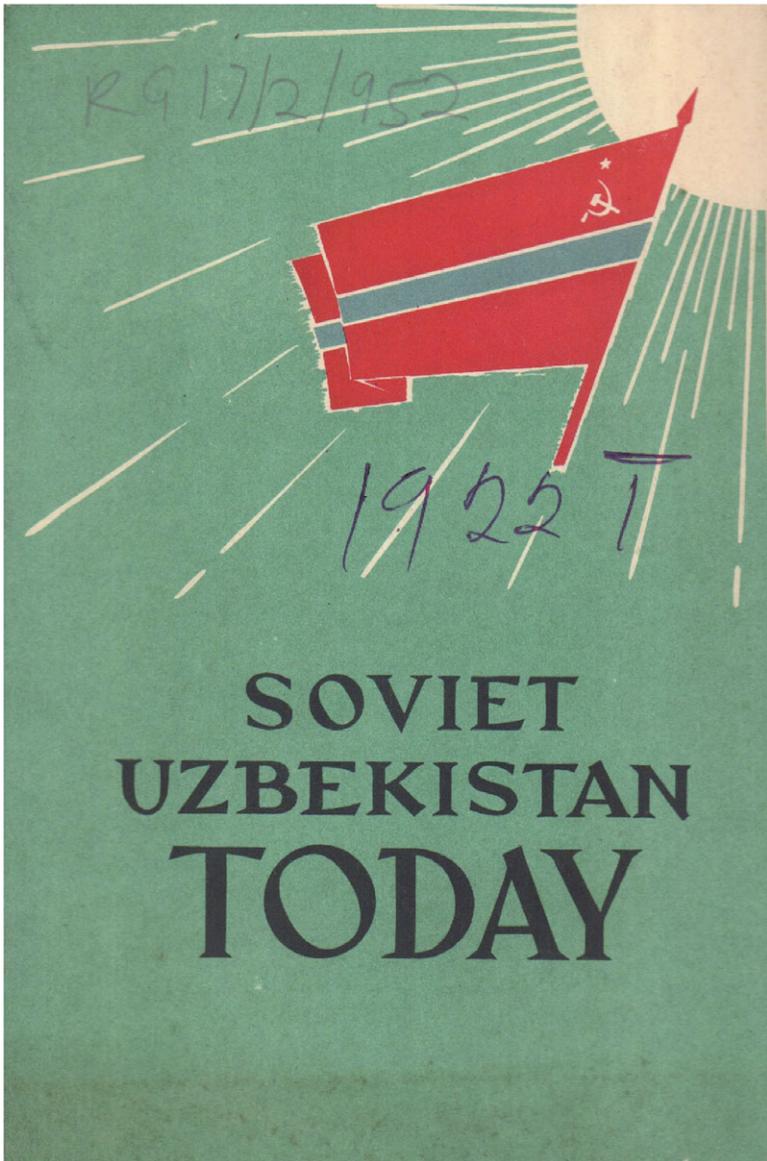
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## Introduction

*Soviet Uzbekistan Today* is a slim booklet amid a vast collection of Cold War-era records housed at Ghana's national archival repository in Accra (figure 1).<sup>1</sup> It was published in English in 1963 by the Uzbek Society of Friendship and Cultural Relations with Foreign Countries, and its aim was to support Soviet propaganda campaigns abroad. It is unclear how the booklet arrived in Accra—whether it was presented by a Soviet diplomat or brought from Uzbekistan by Ghanaian travelers

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<sup>1</sup>*Soviet Uzbekistan Today (Through the Republican Press Pages)*. August (Tashkent: The Uzbek Society of Friendship and Cultural Relations with Foreign Countries, 1963), Public Records and Archives Administration Department (henceforth PRAAD), Accra, RG 17-2-952.



**Figure 1.** *Soviet Uzbekistan Today* (Through the Republican Press Pages). August. (Tashkent: The Uzbek Society of Friendship and Cultural Relations with Foreign Countries, 1963).

during the early 1960s. The booklet itself mentions Ghanaians among the many visitors from newly independent countries in Africa and Asia who were invited to Uzbekistan to see socialism being built in a non-European context.<sup>2</sup> Foreign readers were the booklet's intended audience, as it conveyed the rapid development of the

<sup>2</sup>Rossen Djalalov, *From Internationalism to Postcolonialism: Literature and Cinema between the Second and the Third Worlds* (Montreal: McGill-Queen's University Press, 2020); Artemy Kalinovsky, *Laboratory of Socialist Development: Cold War Politics and Decolonization in Soviet Tajikistan*

Uzbek Soviet Socialist Republic by listing the rising outputs of cotton and livestock, the expansion of silk mills, the rapid transformation of deserts into irrigated land, the buildup of power networks and new settlements, investments in higher education (including the education of women), progress in public health, and cultural programs that collected and preserved the literary and material heritage of the region.<sup>3</sup>

The presence of *Soviet Uzbekistan Today* in the archive in Accra is a reminder of the visibility of the Central Asian Republics in Soviet propaganda targeted at decolonizing Africa and Asia, as well as of Ghana's importance for Soviet foreign policy under Nikita Khrushchev.<sup>4</sup> In the wake of its independence from Britain in 1957, Ghana became a node of Cold War competition. By the early 1960s, together with Mali and Guinea, Ghana was a testing ground for Soviet policies of political and economic support for former European colonies in Africa. The Soviets supported the ambitious Prime Minister (and later President) Kwame Nkrumah as he moved beyond colonial developmentalism and embarked on an investment program explicitly inspired by socialism.<sup>5</sup> This program focused on accelerated development of infrastructure, agriculture, and light industry, as well as on providing housing and social facilities for broad population groups. Following numerous treaties of technical assistance which the government in Accra signed with the Soviet Union and its Eastern European satellites, the socialist countries agreed to deliver a range of resources needed to implement this development program.<sup>6</sup> Among them were what I call in this paper "construction resources"; that is, building materials, the plants in which to manufacture them, machinery to employ them on the construction site, architectural designs to guide this employment, and standards to regulate it.

The implementation of these resources featured prominently in the program of a 1963 trip by a Ghanaian delegation to Uzbekistan, which was documented in the *Soviet Uzbekistan Today* booklet.<sup>7</sup> The delegates were shown housing projects in Tashkent, the capital city, built out of prefabricated concrete panels, where "thousands of workers receive keys to flats which were built at the State's expense."<sup>8</sup> Not only large cities but also villages benefited from Soviet development, and the booklet described the "rebirth" of the *kishlak*, translated as a "native village," thus evoking similarities to Ghana.<sup>9</sup> This was contrasted with "old" *kishlaks*, consisting of narrow streets and windowless houses and constructed from rammed earth—a technique which would

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(Ithaca: Cornell University Press, 2018); Paul Stronski, *Tashkent: Forging a Soviet City, 1930–1966* (Pittsburgh: University of Pittsburgh Press, 2010).

<sup>3</sup>*Soviet Uzbekistan Today*.

<sup>4</sup>Sergey Mazov, *A Distant Front in the Cold War: The USSR in West Africa and the Congo, 1956–1964* (Washington, D.C.: Woodrow Wilson Center Press, and Stanford: Stanford University Press, 2010).

<sup>5</sup>Jeffrey S. Ahlman, *Living with Nkrumahism: Nation, State, and Pan-Africanism in Ghana* (Athens: Ohio University Press, 2017); Roger S. Gocking, *The History of Ghana* (Westport: Greenwood, 2005); Alessandro Iandolo, *Arrested Development: The Soviet Union in Ghana, Guinea, and Mali, 1955–1968* (Ithaca: Cornell University Press, 2022).

<sup>6</sup>George Ginsburgs and Robert M. Slusser, eds., *A Calendar of Soviet Treaties, 1958–1973* (Alphen aan den Rijn: Sijthoff and Noordhoff, 1981).

<sup>7</sup>*Soviet Uzbekistan Today*. The delegation included Nathaniel Welbeck and Emmanuel Maclean, officials of Ghana's Convention Peoples Party, the party headed by Nkrumah.

<sup>8</sup>*Ibid.*, 7.

<sup>9</sup>*Ibid.*, 17.

have reminded Ghanaians of many villages in their own country. The “*kishlak* reborn” was a settlement of modern buildings laid out along broad roads lined with greenery. Inhabitants were provided with a hospital, a maternity home, a kindergarten, a cinema, a boarding school, and a canteen, while summer houses for workers were under construction.<sup>10</sup> After visiting a new Tashkent district, a textile mill, and a collective farm, the Ghanaian delegation was quoted expressing enthusiasm for Uzbekistan’s socialist development.<sup>11</sup>

By inviting the Ghanaians to Uzbekistan, the Soviets wanted to make several points. First, the accelerated development of Tashkent demonstrated that it was not only Britain and the West that had the know-how and resources necessary for Ghana’s modernization. This echoed Khrushchev’s insistence that the formerly colonized countries “need not go begging to their former oppressors for modern equipment,” but could instead get it in the socialist states (“free from any political or military obligations,” as he added controversially).<sup>12</sup> Second, the visits to Uzbekistan were meant to suggest that Soviet construction resources were more suitable for Ghana than British resources in that they offered a faster and more economical solution to the country’s needs. This point was reinforced by the purported similarities in the climatic, social, and cultural contexts of Central Asia and West Africa, and by their shared developmental challenges.<sup>13</sup> Third, variation among the Soviet discourse notwithstanding, the Soviets did not postulate Central Asia as a model to be repeated by Ghana. Rather, the Ghanaian delegation was presented with evidence of the flexibility of Soviet construction technologies and design approaches, which were claimed to be adaptable to conditions around the world, including Western Africa. Adaptability also implied a promise of a more equal working relationship with Ghanaian professionals, who would participate in the modifications of Soviet precedents to suit conditions in Ghana—just as the Soviet propaganda placed in Ghanaian newspapers had emphasized the Uzbeks’ agency in the modernization of their republic.<sup>14</sup>

This paper studies the Ghanaian response to the Soviet offer of construction resources, and to the Soviet developmental vision more generally. This offer was one among many coming to Ghana from across Cold War divides, including from Britain, Western Europe, and the United States, as well as socialist and non-aligned countries. By studying the ways in which Ghanaians managed such a variety of resources, this paper links seemingly narrow questions about construction technology transfer with broader debates about the visions and realities of the post-colonial transition of Ghana’s economy and society. This broader relevance of the construction industry stems from its status as both a substantial part of the Ghanaian economy, and as a condition for transforming all other areas of this economy and the society at large, which depended on the building of factories, transport infrastructure, farms, housing, schools, and health and cultural facilities. Accordingly, this paper shows how controversies pertaining to the construction industry both reflected and informed competing visions of Ghana’s

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<sup>10</sup>Ibid., 17–18.

<sup>11</sup>Ibid., 18–19.

<sup>12</sup>Quoted in Robert S. Walters, *American and Soviet Aid: A Comparative Analysis* (Pittsburgh: University of Pittsburgh Press, 1970), 30.

<sup>13</sup>*Daily Graphic* (Accra), 5 Mar. 1962: 5; *Daily Graphic* 6 Nov. 1965: 14–15.

<sup>14</sup>*Daily Graphic* 6 Nov. 1965: 14–15.

economic development and social modernization in the context of decolonization and the Cold War.

The economic and social transition of African countries beyond colonialism has been a topic of significant historical research, and has recently received new insights, notably with regard to the Soviet and state-socialist impact on socialist-leaning African countries.<sup>15</sup> Scholars have shown how decisions about development were shaped by Cold War competition that, during the late 1950s and early 1960s, led all sides of the geopolitical conflict to offer technical assistance to African and Asian countries. In so doing, scholars have moved beyond Cold War propaganda which saw socialist-leaning countries as “proxies” of Moscow, and instead have pointed at the broader space of agency available to political leaders, high-ranking bureaucrats, diplomatic envoys, and economic advisors from newly independent countries.<sup>16</sup> Historians writing about contexts as diverse as Indonesia, India, Ethiopia, Guinea, Mali, and Ghana have shown how these decision-makers were able to resist the imposition of offers from competing powers, and how they used the rivalry between these powers to extract more than was initially on the table.<sup>17</sup> At the same time, scholars have warned not to overstate the leverage available to African and Asian leaders, in view of the political, economic, and technological hegemony of the United States, the Soviet Union, and some of their allies and satellites.<sup>18</sup>

The perspective of mid-level administrators and professionals, especially those in charge of the construction industry, has been largely absent from this scholarship.<sup>19</sup> The reasons for this absence may have been both archival and methodological. Technical documentation pertaining to a brick or cement factory was typically deposited with the industrial facility in question and was often dispersed after this facility was closed down or privatized. When preserved in national repositories, such documents tended to be fragmented and scattered among records of various ministries and their foreign counterparts, including state-socialist enterprises in

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<sup>15</sup>Deborah Brautigam, *The Dragon's Gift: The Real Story of China in Africa* (Oxford: Oxford University Press, 2009); Theodora Dragostinova, *Cold War from the Margins: A Small Socialist State on the Global Cultural Scene* (Ithaca: Cornell University Press, 2021); Iandolo, *Arrested Development*; James Mark, Artemy M. Kalinovsky, and Steffi Marung, eds., *Alternative Globalizations: Eastern Europe and the Postcolonial World* (Bloomington: Indiana University Press, 2020); Elidor Mëhilli, *From Stalin to Mao: Albania and the Socialist World* (Ithaca: Cornell University Press, 2017); Oscar Sanchez-Sibony, *Red Globalization: The Political Economy of the Soviet Cold War from Stalin to Khrushchev* (Cambridge: Cambridge University Press, 2014).

<sup>16</sup>David Engerman, “The Second World’s Third World,” *Kritika: Explorations in Russian and Eurasian History* 12, 1 (2011): 183–212; Mark, Kalinovsky, and Marung, *Alternative Globalizations*.

<sup>17</sup>Patryk Babiracki and Austin Jersild, eds., *Socialist Internationalism in the Cold War: Exploring the Second World* (Palgrave Macmillan, 2016); Ragna Boden, “Cold War Economics: Soviet Aid to Indonesia,” *Journal of Cold War Studies* 10, 3 (2008): 110–28; David Engerman, *Price of Aid: The Economic Cold War in India* (Cambridge: Harvard University Press, 2018); Richard Remnek, *Soviet Policy in the Horn of Africa: The Decision to Intervene* (Alexandria: Institute of Naval Studies, Center for Naval Analyses, 1980).

<sup>18</sup>Sanchez-Sibony, *Red Globalization*; Mëhilli, *From Stalin to Mao*.

<sup>19</sup>For the role of other professions in Ghana’s decolonization, see Jarpa Dawuni, “The Legal Profession in Ghana: From Indigenization to Globalization,” *International Journal of the Legal Profession* 29, 1 (2022): 75–101; Stephanie Decker, “Africanization in British Multinationals in Ghana and Nigeria, 1945–1970,” *Business History Review* 92, 4 (2018): 691–718; Josephine F. Milburn, *British Business and Ghanaian Independence* (London: C. Hurst, 1977); Abena Dove Osseo-Asare, *Atomic Junction: Nuclear Power in Africa after Independence* (Cambridge: Cambridge University Press, 2019); Jennifer Hart, *Ghana on the Go: African Mobility in the Age of Motor Transportation* (Bloomington: Indiana University Press, 2016).

Eastern Europe. In contrast to most government records, archives of such enterprises were often lost in the wake of socialism's end in the region in 1989–1990. Even when available, the documents pertaining to the construction industry pose challenges to scholars. Political and economic historians are rarely trained to read technical drawings and engineering documentation and are not accustomed to treating them as historiographic evidence. And yet it is often small changes to these documents that testify to the negotiations surrounding the projects in question—negotiations which reveal Indigenous agency, notably that of mid-level administrators and professionals. On the other hand, scholars trained in studying such technical drawings, among them architectural historians, have rarely intervened in critical ways in broader debates on the economic history of the Cold War.

This paper focuses on the work of professionals and administrators employed by institutions, such as the Ghana National Construction Corporation (GNCC), in charge of the design and construction of government buildings in independent Ghana. This perspective enhances our understanding of the ways in which professionals, many of whom had started their careers during colonial rule, addressed the opportunities and pressures resulting from independence and Cold War competition. In particular, it reveals their responses to the technological hegemony of external powers such as Britain and the Soviet Union—that is, these powers' ability to influence the delivery of construction resources to Ghana, to set building standards, to control intellectual property related to construction, and to regulate research and education in these areas.<sup>20</sup> While advanced technologies, such as those related to the military, aviation, and nuclear energy, have been studied by historians of the global Cold War, construction has rarely featured in these accounts, with the exception of hydroengineering structures and agricultural infrastructure.<sup>21</sup> This paper adds to this discussion not only by extending it to construction technologies—often less advanced but more widespread—but also by reconceptualizing the character of technological hegemony at the time of decolonization.

This reconceptualization is developed from the vantage point of Ghanaian mid-level administrators and professionals who advised their superiors regarding the offers coming from the Soviet Union and others. These men, joined by Ghanaian professional women only by the late 1960s, were also in charge of drafting specifications for imported construction resources, allocating these resources throughout various investments in Ghana, and adapting them to the means, needs, and objectives of the country. This vantage point makes clear that the Soviet technological offer was leveraged not only by political pressure and favorable financial conditions, but also by an attempt to persuade Ghanaians that this

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<sup>20</sup>Andrew Feenberg, *Between Reason and Experience: Essays in Technology and Modernity* (Cambridge: MIT Press, 2010); Carroll Pursell, *Technology in Postwar America: A History* (New York: Columbia University Press, 2007).

<sup>21</sup>Jeffrey Engel, *Cold War at 30,000 Feet: The Anglo-American Fight for Aviation Supremacy* (Cambridge: Harvard University Press, 2007); Steven Harris, "The World's Largest Airline: How Aeroflot Learned to Stop Worrying and Became a Corporation," *Laboratorium: Russian Review of Social Research* 13, 1 (May 2021): 20–56; Gabrielle Hecht, ed., *Entangled Geographies: Empire and Technopolitics in the Global Cold War* (Cambridge: MIT Press, 2011); Naomi Oreskes and John Krige, eds., *Science and Technology in the Global Cold War* (Cambridge: MIT Press, 2014); Thomas Robertson and Jenny Leigh Smith, eds., *Transplanting Modernity? New Histories of Poverty, Development, and Environment* (Pittsburgh: University of Pittsburgh Press, 2023).

technology was suitable for their country. The latter point has already been conveyed by the opening vignette of this paper: the 1963 visit to Uzbekistan intended to convince Ghanaian delegates of the adaptability of Soviet technology across various geographies. Ghanaian professionals confronted both facets of the Soviet technological offer—pressure and persuasion—when implementing Soviet construction resources in their country. As they followed the political decision of the Ghanaian government to accept Soviet technology, they were also testing Soviet assurances about the usefulness and adaptability of this technology to Ghanaian conditions.

By focusing on the practice of adaptation, this paper illustrates the changing character of the technological hegemony of the Soviet Union and other powers during the period of decolonization. It builds upon previous writings of scholars in architecture and urban history, the history of technology, and science and technology studies. In particular, this paper advances the work of historians such as Stephen Ward, who argued that during the late colonial period metropolitan solutions related to planning and construction were no longer “imposed” but rather modified to better account for local contexts in the colonies.<sup>22</sup> This tendency has been confirmed by other scholars, among them Viviana d’Auria, Jiat-Hwee Chang, Mark Crinson, Jessica Holland, Hannah Le Roux, Iain Jackson, and Nwola Uduku, who have documented the tentative modification of metropolitan construction materials, blueprints, and regulations deployed in postwar British West Africa.<sup>23</sup> However, while Ward attributed this shift to increasing Indigenous participation in construction and urban planning, in this paper I show that such participation was itself a matter of negotiation.<sup>24</sup> Rather than seeing adaptive practices as evidence of the weakening of foreign technological hegemony in Ghana, I show how adaptation could have been instrumental for obtaining or preserving such hegemony by institutions from both Western and Eastern Europe. In particular, I argue that in the 1960s foreign technological hegemony in Ghana, whether British or Soviet, was

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<sup>22</sup>Stephen Ward, “Transnational Planners in a Postcolonial World,” in Patsy Healey and Robert Upton, eds., *Crossing Borders: International Exchange and Planning Practices* (London: Routledge, 2010), 47–72; Anthony King, “Exporting ‘Planning’: The Colonial and Neo-Colonial Experience,” *Urbanism Past & Present* 5 (1977–1978): 12–22. See also Richard Harris and Susan Parnell, “The Turning Point in Urban Policy for British Colonial Africa, 1939–1945,” in Fasil Demissie, ed., *Colonial Architecture and Urbanism in Africa: Intertwined and Contested Histories* (London: Routledge, 2012), 127–51.

<sup>23</sup>Viviana d’Auria, “From Tropical Transitions to Ekistic Experimentation: Doxiadis Associates in Tema, Ghana,” *Positions* 1 (2010): 40–63; and “In the Laboratory and in the Field: Hybrid Housing Design for the African City in Late-Colonial and Decolonising Ghana (1945–57),” *Journal of Architecture* 19, 3 (2014): 329–56; Jiat-Hwee Chang, *A Genealogy of Tropical Architecture: Colonial Networks, Nature and Technoscience* (London: Routledge, 2016); Mark Crinson, *Modern Architecture and the End of Empire* (Aldershot: Ashgate, 2003); Jessica Holland and Iain Jackson, *The Architecture of Edwin Maxwell Fry and Jane Drew: Twentieth Century Architecture, Pioneer Modernism and the Tropics* (Farnham: Ashgate, 2014); Iain Jackson, Ola Uduku, Irene Appeaning Addo, and Rexford Assasie Opong, “The Volta River Project: Planning, Housing and Resettlement in Ghana, 1950–1965,” *Journal of Architecture* 24, 4 (2019): 512–48; Hannah Le Roux, “Modern Architecture in Post-Colonial Ghana and Nigeria,” *Architectural History* 47 (2004): 361–92; Stephan Miescher, *A Dam for Africa: Akosombo Stories from Ghana* (Bloomington: Indiana University Press, 2022); Lukasz Stanek, *Architecture in Global Socialism: Eastern Europe, West Africa and the Middle East in the Cold War* (Princeton: Princeton University Press, 2020); and Ola Uduku, *Learning Spaces in Africa: Critical Histories to 21st Century Challenges and Change* (London: Routledge, 2018).

<sup>24</sup>Ward, “Transnational Planners.”

produced and reproduced as much by the introduction of foreign technologies through political and economic leverage as by any attempts to persuade decision-makers in Accra that these technologies could be adapted to West African conditions.

I argue that a study of Ghanaian responses to this persuasion brings to the fore the pressures under which professionals and administrators in Accra operated during the country's first decade of independence. A focus on their adaptive practices reveals their competing views on the prospects of Ghana's construction industry, as well as on the country's technological, economic, and social development. This argument is based on the reflexive character of adaptive practices: the adaptation of an external resource to Ghana's needs, means, and objectives by local professionals was based on these professionals' often conflicting assessments about what those needs, means, and objectives were. With this in mind, rather than describing the implementation of post-independence development planning and its failures, this paper shows how Ghanaian professionals reflected upon, assessed, and sometimes countered this planning, and how they offered alternative visions of the country's economy. Furthermore, I show that some of these alternative visions were occasionally incorporated into development plans, thus offering a more complex reading of these documents. In so doing, and beyond the specific focus on Ghana's construction industry, the paper's reconceptualization of technological hegemony and of African responses to it expands the register of Indigenous agency beyond the modalities of resistance and extraction that have dominated Cold War historiography.

I will begin with an overview of Ghana's construction industry as inherited from the colonial period, and of its changes in the wake of independence and the country's opening toward the Soviet Union and its satellites. I will then show that the Ghanaian government claimed full control over imported construction resources, and how the practice of adaptation provided evidence of such claim. Yet Ghanaian professionals had been acquainted with adaptive practices since the late colonial period, when the adaptation of metropolitan resources to West African conditions had permeated all areas of the British-dominated construction industry. While these professionals were attracted to the Soviet promise of offsetting Britain's hegemony, they were concerned about the prospect of a new dependency on a hegemonic provider of technological resources and expertise. In the final section I focus on the work of Victor Adegbite, chief architect at the GNCC, and I show how his adaptive practices sometimes followed Soviet precedents, while at other times they suggested an alternative vision of Ghana's construction industry, and Ghana's social and economic development more generally.

## The Construction Industry in the Gold Coast and Ghana

When in 1957 the Gold Coast colony became independent Ghana, Prime Minister Kwame Nkrumah and his advisors perceived the economic shift away from colonialism as intricately linked with and codependent on political transformation.<sup>25</sup> Nkrumah was concerned about the persistence of Britain's economic influence following Ghana's political independence, and he was

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<sup>25</sup>Robert L. Tignor, *W. Arthur Lewis and the Birth of Development Economics* (Princeton: Princeton University Press, 2006).

convinced that popular support for the new state was conditional upon perceptible improvements in the daily lives of the population, to be financed by accelerated economic development. Scholars have discussed this intertwinement between the political and economic transition by studying the development plans that directed economic policy, both during the period of shared British-Ghanaian rule (1951–1957) and after Ghana’s independence, followed by Nkrumah’s shift toward socialist-inspired development during the early 1960s.<sup>26</sup> These documents included the colonial plan inherited by Nkrumah (1951–1957) and prolonged after independence (1958–1959), followed by the Second Development (Five-Year) Plan (1959–1961), which was then replaced by the Seven-Year Plan (1964–1966).<sup>27</sup> Historians also studied how these plans captured differing and changing ideas among politicians such as Nkrumah and his finance ministers, from the more conservative Komla Gbedemah (1954–1961) to the left-wing Kwesi Amoako-Atta (1964–1966), as well as economic advisors, including the Saint Lucian Arthur Lewis and the Hungarian József Bogнар.<sup>28</sup> While import substitution remained the broad aim of Ghana’s industrial policies during the first post-independence decade, historians mapped policy shifts according to indicators such as the share of development investments in comparison with the financing of social welfare, the sectorial composition of industrial investments, and the relationship between state and private investments.<sup>29</sup>

The construction industry has received little attention in recent scholarship, despite the large number of studies and reports issued or commissioned by the colonial and imperial governments during the 1950s, as well as accounts of Ghana’s economic development delivered by scholars during the 1960s.<sup>30</sup> These sources document the fast growth of this industry during the decade preceding independence and in the years following it. According to statistical accounts published in the early 1960s, during the previous decade the number of new construction companies commencing operation grew threefold. The sector’s rise was confirmed by other data, including the growth of construction within the distribution of urban employment, and the growth of the value of building and other construction work.<sup>31</sup>

However, the industry as inherited from the colonial period was characterized by “technological dualism,” as Tony Killick argued in 1966.<sup>32</sup> He distinguished between

<sup>26</sup>Ibid.; Gocking, *History of Ghana*.

<sup>27</sup>The dates refer to the implementation periods of these plans.

<sup>28</sup>József Bogнар, “Economic Planning in Ghana,” *New Hungarian Quarterly* 3, 7 (1962): 3–31; Tignor, *W. Arthur Lewis*.

<sup>29</sup>Ernest Aryeetey and Ravi Kanbur, eds., *The Economy of Ghana: Sixty Years after Independence* (Oxford: Oxford University Press, 2017); Tignor, *W. Arthur Lewis*; Gocking, *History of Ghana*.

<sup>30</sup>Tony Killick, “Manufacturing and Construction,” in Walter Birmingham, I. Neustadt, and E. N. Omaboe, eds., *A Study of Contemporary Ghana. Volume One. The Economy of Ghana* (London: published for the Ghana Academy of Sciences by Allen & Unwin, 1966), 274–93; Dudley Seers and C. R. Ross, “Report on the Financial and Physical Problems of Development in the Gold Coast” (Accra: Office of the Government Statistician, 1952); Charles Abrams, Vladimir Bodiansky, and Otto H. G. Koenigsberger, “Report on Housing in the Gold Coast” (United Nations: Technical Assistance Administration, 1956). See also the Annual Reports of the Public Works Departments of the Gold Coast (from 1952 to 1956) and Ghana (1957); the newsletter of the Ghana National Construction Company (May–Nov. 1961); and the “Annual Report of the Ghana National Construction Corporation (Formerly Division of Public Construction) for the Period 1959–60” (Accra: GNCC, 1963).

<sup>31</sup>Tony Killick, “Manufacturing and Construction,” 274–75.

<sup>32</sup>Ibid., 278.

“very small concerns constructing traditional, ‘swish’ buildings”—structures made of local laterite soil, sometimes stabilized with cement—and “highly capitalized large-scale concerns engaged in the construction of buildings incorporating modern designs and materials.”<sup>33</sup> Most of the latter companies were British, such as Taylor Woodrow, while the former were African contractors, often small family firms with little experience.<sup>34</sup> By the 1950s, they were tentatively supported by the government’s Africanization policies, in contrast to the previous practice of discriminating against African entrepreneurs by denying them credit and state contracts.<sup>35</sup> Killick’s “dualism,” however, should be modified to include a third group of several midsize construction companies, typically of European origin, including Italian and Swiss, but also Lebanese. Over the course of the 1950s investment boom, these contractors were often awarded government commissions which the colonial Public Works Department (PWD) could not deliver with its own staff and resources.<sup>36</sup>

British influence extended beyond construction companies to other areas of the Gold Coast’s construction industry during the 1950s. The PWD relied on British architects, town planners, engineers, quantity surveyors, and other professionals, both employed by the Department and hired as consultants in the colony and in Britain. Construction resources were also largely coming from the metropole, ranging from cement, steel, aluminum sheets, and glass, to composite products such as window and roof systems, prefabricated buildings, and finishing materials.<sup>37</sup> Between 1947 and 1957 the imports of construction materials increased relative to other imports during this period.<sup>38</sup> British control over their delivery was ensured by restricting imports from outside of the sterling zone, and the PWD standard contract stipulated that “in so far as practicable all tools and materials used on the works shall be products of the British Empire.”<sup>39</sup> However, as British producers were unable to fill the demand for construction materials in the colony, by the mid-1950s the import restrictions were relaxed, resulting in the arrival of materials from France, West Germany, Belgium, and the Netherlands.<sup>40</sup> This did not always go as planned, as demonstrated by the “Schokbeton affair,” in which the Dutch firm Schokbeton was commissioned to construct several prefabricated houses in Accra and Kumasi. Escalating costs put an end to the planned Schokbeton factory in the Gold Coast.<sup>41</sup>

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<sup>33</sup>Ibid. This distinction is in accordance with the “Report on the Financial and Physical Problems of Development in the Gold Coast,” by Seers and Ross, 123.

<sup>34</sup>John Carmichael, *Together We Build: Fifty Years of Taylor Woodrow in Ghana, 1947–1997* (London: Taylor Woodrow Construction Limited, 1997).

<sup>35</sup>John T. Ducker, *Beyond Empire: The End of Britain’s Colonial Encounter* (London: Bloomsbury Academic, 2020); Stanley Shaloff, “The Africanization Controversy in the Gold Coast, 1926–1946,” *African Studies Review* 17, 3 (1974): 493–504.

<sup>36</sup>*Annual Report, 1952–53* (Accra: PWD, 1954); *Annual Report, 1953–54* (Accra: PWD, 1955); *Annual Report, 1954–55* (Accra: PWD, 1956); *Annual Report, 1955–56* (Accra: PWD, 1957); *Annual Report, 1957–58* (Accra: PWD, 1961).

<sup>37</sup>Seers and Ross, “Report,” 111–21.

<sup>38</sup>Sarah Stockwell, *The Business of Decolonization: British Business Strategies in the Gold Coast* (Oxford: Oxford University Press 2000), 56.

<sup>39</sup>Quoted in Seers and Ross, “Report,” 117.

<sup>40</sup>*West African Building Research Institute Information Sheet* 3, Feb. 1954.

<sup>41</sup>“Principles of an Agreement between the Government of the Gold Coast and N. V. Schokbeton of Kampen, Holland,” 20 Feb. 1952, PRAAD Accra, RG 5-1-445.

The colonial and imperial governments were invested in extending the presence of British companies in Western Africa beyond independence—despite numerous conflicts between British politicians and businessmen about the pace, risks, and priorities of decolonization.<sup>42</sup> Concerned about the prospect of Britain's continuous economic influence, Nkrumah intended to diversify construction resources as early as during the shared British-Ghanaian rule. The choice of Schokbeton over a British producer of prefabrication systems might be seen as one case in point. Another was an invitation to African American entrepreneurs to invest in housing production.<sup>43</sup> Yet another example of this diversification of expertise in architecture and construction was the commissioning of United Nations experts to advise on housing questions.<sup>44</sup> Among the experts' most consequential recommendations was a proposal to found an architectural school as part of the College of Technology in Kumasi, which was transformed after independence into a University with a Faculty of Engineering and a School of Architecture, Town Planning, and Building.<sup>45</sup> Based on both British and American pedagogical models, by the 1960s the University had become a node of international expertise in construction and was making use of exchanges with socialist countries.

This diversification of construction resources gained momentum after Ghana's independence in 1957. It reflected a variety of diplomatic initiatives spearheaded by Nkrumah, including his pivotal role in the establishment of the Non-Aligned Movement, as well as Ghana's rapprochement with Israel, the Soviet Union, and its satellite states, which intensified in the wake of the Congo crisis (1960).<sup>46</sup> The history of the Ghana National Construction Corporation (GNCC), a state-owned company put in charge of most government investment in construction, testifies to the ways in which Ghana's international relations affected its construction industry. The GNCC was created in 1962 from a merger of two organizations: the former PWD and the recently nationalized Ghana National Construction Company. The latter was a short-lived enterprise founded in 1958 as a joint venture of the Ghanaian government and the Israeli company Solel Boneh. Until the coup which toppled Nkrumah in 1966, the GNCC employed as many as thirty-five thousand employees, among them architects, planners, and engineers from socialist countries such as Bulgaria, Czechoslovakia, Hungary, Poland, Romania, and Yugoslavia. Other foreign employees included African Americans, as well as Indian and Filipino professionals. Leadership positions were assumed by Ghanaians, including architect Victor Adegbite as the chief architect.<sup>47</sup>

The arrival of professionals from socialist countries was accompanied by an increase in imports of construction resources from Eastern Europe. By the 1960s, such imports—resulting from technical assistance agreements signed by the Nkrumah government—included cement, steel, vehicles, and machinery, as well as

<sup>42</sup>Stockwell, *Business of Decolonization*.

<sup>43</sup>"Letter to the Chairman," 27 Jan. 1961, PRAAD Accra, RG 7-1-7.

<sup>44</sup>Abrams, Bodiansky, and Koenigsberger, "Report."

<sup>45</sup>*Annual Report of the Kwame Nkrumah University of Science and Technology. October 1961–September 1962* (Kumasi: Kwame Nkrumah University Press, 1963).

<sup>46</sup>Gocking, *History of Ghana*; Mazov, *Distant Front*.

<sup>47</sup>"Annual Report of the Ghana National Construction Corporation"; Stanek, *Architecture in Global Socialism*, 34–95; Haim Yacobi, *Israel and Africa: A Genealogy of Moral Geography* (London: Routledge, 2016).

whole industrial plants. The largest investments were a Soviet concrete prefabricated elements factory built in Accra, and a cement plant in Takoradi, constructed by Polish companies.<sup>48</sup> Machinery for the production of plywood and ceramic bricks and tiles was acquired from Czechoslovakia and Yugoslavia.<sup>49</sup> Construction resources from socialist countries were also delivered to Ghana as part of turnkey industrial projects, which were credited, planned, and executed by organizations from the socialist countries. For example, reports from a sugar factory building site in Asutsuare, close to the Volta River, list Czechoslovakian construction machinery and Polish high-temperature-resistant bricks for the ovens, but also items as basic as nails imported from Poland, since by the mid-1960s they were difficult to buy on the local market due to overwhelming demand for construction materials.<sup>50</sup>

Despite Ghana's opening toward Eastern Europe, British impact on the country's construction industry continued during Nkrumah's rule. While the numbers of British professionals in government service were falling, British private consultants in Accra continued to receive commissions, even if by the early 1960s their clients consisted mainly of private companies rather than state organizations.<sup>51</sup> British construction companies also continued to work in the country. While some, like Taylor-Woodrow, became incorporated in Ghana in compliance with Africanization policies, their profits continued to flow to their headquarters in the UK. British producers of construction materials and machinery expanded their exports to Ghana, often mediated by trading companies such as the United Africa Company.<sup>52</sup> This reflected a broader shift among British trading companies after independence from retail to wholesale and specialized sales.<sup>53</sup> British influence continued as well in architectural, planning, and engineering education, as the relevant courses at the College, and later the University in Kumasi were accredited by London-based institutions, with qualification standards controlled by British professional organizations.<sup>54</sup> Furthermore, the regulation of construction, from building norms and standards to codes concerning procurement, tender, and terms of contract continued to be based on British precedents. Perhaps the most striking example of continued British influence was the fact that a Ghanaian purchase agreement for Soviet cement obliged the Soviets to send samples of each cement shipment to a specialized laboratory in London, where the samples were tested for compliance with British standards.<sup>55</sup> More fundamental constraints stemmed from the power of the London-based Cocoa Marketing Company to regulate Ghana's international trade in cocoa, the country's main export product and its primary source of income. The

<sup>48</sup>"Panel Factory in Accra," 11 Jan. 1963, PRAAD Accra, RG 6-5-23; "Cement Clinker Agreement (Takoradi)," 28 Oct. 1964, RG 7-1-1557.

<sup>49</sup>"Government Participation in the Saltpond Ceramics Project," Aug. 1966, PRAAD Accra, RG 7-1-599; "Czech Factories for Ghana," *West African Builder and Architect* 1, 4 (1961): 107.

<sup>50</sup>Cekop-Chemak, "Kombinat cukrowniczy w Ghanie," 1964–1965, Archiwum Akt Nowych (Warsaw), 2-2309-0-130. On Asutsuare, see also Eric Don-Arthur, Michael Dziwornu, and Łukasz Stanek, *Asutsuare Rebound* (short film), International Biennale of Architecture, Rotterdam, 2022.

<sup>51</sup>Annual Report of the Ghana National Construction Corporation."

<sup>52</sup>Carmichael, *Together We Build*. See also: Iain Jackson, Ewan Harrison, Rixt Woudstra, Michele Tenzon, and Claire Tunstall, *Architecture, Empire & Trade: The United Africa Company* (London: Bloomsbury, forthcoming).

<sup>53</sup>Stockwell, *Business of Decolonization*.

<sup>54</sup>Łukasz Stanek, "Post-colonial Education in Kumasi," *Architectural Review* 9 (2022): 88–91.

<sup>55</sup>"Contract," 7 June 1963, PRAAD Accra, RG 7-1-1691.

Company restricted the amount of Ghanaian cocoa that could be bartered for Soviet and Eastern European goods and services, which included construction resources.<sup>56</sup>

This overview shows the many ways in which British technological hegemony persisted in the Ghanaian construction industry in the wake of the country's independence. British personnel continued to work in Ghana, and British institutions sustained control over many aspects of the delivery of construction materials and machinery, standards, building regulations, and education in architecture, town planning, and construction. In the following section I will argue that adaptation was central in perpetuating this hegemony, and I will show how the Soviet counteroffer, while attractive to Ghanaians, came with risks of its own.

### Hegemony by Adaptation

In 1961, F. W. Rowley, general manager at the Ghana Industrial Development Corporation in Accra, assessed a commercial offer from two Yugoslavian companies concerning the delivery of an industrial plant, along with equipment and consulting services. Concerned about the financial conditions, Rowley advised the government to reject the offer, and added: "We can obtain consultancy services from almost every country in the world.... [W]e could seek competitive terms including credit and we would have complete freedom in selecting the best. Under the form of arrangement proposed by the Yugoslavian [*sic*], a great deal of freedom of selection would be removed...."<sup>57</sup>

Rowley's comments conveyed a sense of opportunity, even excitement, about the "freedom" to pursue economic exchanges around the world that was brought about by political independence. But he also hinted at a concern, shared by many administrators in Accra, about falling into a new type of dependency. Ghanaian politicians were adamant in emphasizing that they were not replacing one colonial master with another. For example, in response to media reports about low-quality imports of Soviet machinery to Guinea and their inadequacy for the country's needs, Krobo Edusei, the Minister of Industries in Accra, reassured the public, "Whatever happened elsewhere, we in Ghana are in full and absolute control of every single project."<sup>58</sup>

However, what exactly did "control" mean where the import of construction resources was concerned? From the perspective of Ghanaian professionals and mid-level administrators, the answer differed according to their various roles in this process. They advised the government on the selection of imported resources, and assessed investment projects proposed by foreign institutions, from industrial facilities to housing and social infrastructure. Among these proposals, particularly relevant were those related to construction materials industry intended to expand Ghana's production capacity. Professionals in Accra were charged with the allocation of imported resources across various governmental investments. Thus, a significant part of these professionals' daily work consisted of adapting imported construction resources to local requirements and conditions.

<sup>56</sup>Iandolo, *Arrested Development*, 74–75, 80, 105.

<sup>57</sup>"Yugoslav Delegation," 28 Mar. 1961, PRAAD Accra, RG 7-2-109.

<sup>58</sup>*Daily Graphic*, 5 Mar. 1962: 5.

In order to understand the horizon of choice available to these professionals and administrators—and hence to assess the level of their “control” over imported construction resources—I will discuss how these resources were adapted by architects in Accra. Since the colonial period they had seen adaptation as their core professional competence in negotiating the import of construction resources. In this context, I understand “adaptation” as a set of procedures that modified a received resource—an architectural blueprint, a building technology, a composite construction material—to suit local requirements and conditions. After agreeing on which resource was to be adapted, adaptation required a range of decisions, each of them open to disagreement. This process started with negotiating an understanding of the conditions and requirements of the local context, and of how they differed from the conditions and requirements that the original resource responded to. The specification of these adaptive parameters affected decisions concerning what needed to be modified in order to achieve the intended performance. Or, in the language of Science and Technology Studies, which features needed to be deterritorialized, or detached from the original context, and then reterritorialized, or inscribed into a new context.<sup>59</sup> As this adaptation required substantial knowledge production infrastructure, starting with collection of local data, and ending with testing of the adapted resources, adaptation implied a division and a distribution of these responsibilities among various actors and geographies.

The selection and definition of adaptive parameters, the extent of the modification of an adapted resource, the division of labor within this process, and the measurement of the success of such procedures, were all negotiated within the broader technological, economic, political, and cultural context of 1960s Ghana. In this way, adaptation is a useful vantage point by which to understand how Ghanaian professionals responded to British technological hegemony, and how they negotiated the risks of the Soviet counteroffer. More generally, a focus on adaptive practices allows us to reassess the changing character of technological hegemony at the time of decolonization and the Cold War, and the changing character of agency among those who opposed this hegemony.

The intertwining of technological hegemony with the practice of adaptation was evident to architects who worked in the Gold Coast during the postwar period. A case in point was “tropical architecture,” a design approach which architectural historians characterized by the adaptation of metropolitan precedents to fit socio-technical and socio-environmental contexts around the British Empire.<sup>60</sup> This description followed the language of the architects themselves, among them James

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<sup>59</sup>Stephen J. Collier and Aihwa Ong, “Global Assemblages, Anthropological Problems,” in Stephen J. Collier and Aihwa Ong, eds., *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems* (Malden: Blackwell, 2005), 3–21; Andrew Barry, “Technological Zones,” *European Journal of Social Theory* 9, 2 (2006): 239–53; Donna C. Mehos and Suzanne M. Moon, “The Uses of Portability: Circulating Experts in the Technopolitics of Cold War and Decolonization,” in Gabrielle Hecht, ed., *Entangled Geographies: Empire and Technopolitics in the Global Cold War* (Cambridge: MIT Press, 2011), 43–74.

<sup>60</sup>D’Auria, “In the Laboratory”; D’Auria, “From Tropical Transitions”; Viviana D’Auria, “More than Tropical? Modern Housing, Expatriate Practitioners and the Volta River Project in Decolonising Ghana,” in Ruth Craggs and Claire Wintle, eds., *Cultures of Decolonisation: Transnational Productions and Practices, 1945–70* (Manchester: Manchester University Press, 2014), 196–221; Chang, *Genealogy*; Crinson, *Modern Architecture*; Holland and Jackson, *Architecture of Edwin Maxwell Fry and Jane Drew*; Uduku, *Learning Spaces*.



**Figure 2.** Opoku Ware School, Kumasi, Ghana, 1953–1955. Design by Fry, Drew, Drake and Lasdun. Author's photo, 2022.

Cubitt, Kenneth Scott, Nickson and Borys, and Fry, Drew and Partners. Writing in 1956, Maxwell Fry and Jane Drew distinguished three parameters of adapting the principles of European modernism to West Africa: climatic conditions, local materials and technologies, and the needs and aspirations of the prospective users.<sup>61</sup> A comparison between Fry and Drew's publications, such as *Tropical Architecture in the Humid Zone* (1956), and their built work makes it evident that this discourse ranged between prescriptive and aspirational.<sup>62</sup> Accounting for climatic conditions led to design decisions employed to protect users from sun, rain, and heat. These decisions included ensuring cross-ventilation for every room, raising volumes above the ground to facilitate air circulation, and the use of building components such as covered walkways, sun breakers, and perforated walls (figure 2).<sup>63</sup> This architecture built upon an established colonial practice of accommodating Europeans in subtropical climates which, with the expansion of the colonial states since the early twentieth century, was extended to buildings for Africans.<sup>64</sup> By contrast, Fry and Drew's commitment to local materials was often only aspirational, given the amount of imported materials in their design specifications. In turn, the social imagination of "tropical architects," notably expressed in housing layouts, was informed by conflicting registers of what Viviana d'Auria called "tradition" and "transition." This included, on one hand, the impulse to

<sup>61</sup>Jane Drew and E. Maxwell Fry, *Tropical Architecture in the Humid Zone* (London: Batsford, 1956), 23. See also Alfred Alcock and Helga Richards, *How to Plan Your Village* (London: Longmans, Green and Co., 1956); Jane Drew, E. Maxwell Fry, and Henry L. Ford, *Village Housing in the Tropics* (London: Lund Humphries, 1947).

<sup>62</sup>Drew and Fry, *Tropical Architecture*.

<sup>63</sup>Holland and Jackson, *Architecture of Edwin Maxwell Fry and Jane Drew*.

<sup>64</sup>Chang, *Genealogy*.

accommodate inherited practices of daily life of specific ethnic groups and, on the other, the ambition to reshape these practices according to normative visions of a modern, Ghanaian society.<sup>65</sup>

By the 1950s, the discourse and practice of adaptation could be found throughout the colonial construction industry. Professional periodicals such as *Colonial Building Notes* (renamed in 1958 as *Overseas Building Notes*), published by the Building Research Station in Garston in the UK, posited the adaptation of metropolitan architectural and building resources to non-European conditions as a crucial competence of professionals in the age of decolonization. During the 1950s and early 1960s the *Notes* published issues discussing environmental control in architectural and urban design across Asia and Africa.<sup>66</sup> They included overviews of housing designs responding to climatic and social conditions in Kenya, Uganda, Nigeria, Singapore, the West Indies, Hong Kong, Southern Rhodesia and Northern Rhodesia, and Malaya, as well as examples from non-British colonial territories such as the Belgian Congo.<sup>67</sup> The *Notes* also discussed paint, timber, concrete, cement, and aluminum roofing from various producers, and their applicability in tropical and subtropical latitudes.<sup>68</sup> Newly established research organizations such as the West African Building Research Institute, founded in 1952 in Accra with a branch in Nigeria, tested these products' performance in the region (figure 3).<sup>69</sup> Marketing materials for prefabricated housing, schools, hospitals, and storage buildings, which British manufacturers were sending to various ministries in Accra, routinely claimed these buildings' adaptability to the Gold Coast climate, and declared that they could be constructed by unskilled African labor (figure 4).<sup>70</sup> Metropolitan architects experienced in colonial contexts established a course on tropical architecture at the Architectural Association in London, and advised newly founded architectural schools in sub-Saharan Africa, including the one in Kumasi, on how to modify metropolitan curricula to suit local needs.<sup>71</sup>

Examining the practice of adaptation in all areas of the construction industry in the Gold Coast offers a nuanced view into the character of British technological hegemony during the "second colonial occupation," which is how historians Anthony Low and John Lonsdale described the intensification of government involvement and increase of economic investment in British colonies after World War II.<sup>72</sup> These practices reinforced Britain's role as a "center of calculation"—a site of technological knowledge production, advanced manufacturing, professional regulation, and educational innovation.<sup>73</sup> This work by the imperial center

<sup>65</sup>D'Auria, "In the Laboratory"; and "More than Tropical?"

<sup>66</sup>*Colonial Building Notes* 1953, 4; *Overseas Building Notes* 1958, 5; 1960, 3, 10, 12; 1967, 6.

<sup>67</sup>*Colonial Building Notes* 1957, 1, 10; 1958, 2; *Overseas Building Notes* 1958, 5, 6, 8, 11, 12; 1959, 6, 9; 1961, 1, 3, 6, 11; 1962, 2, 11; 1966, 9, 10; and 1967, 2, 3.

<sup>68</sup>*Colonial Building Notes* 1957, 3, 5, 8; *Overseas Building Notes* 1958, 9, 10; 1960, 5; 1961, 6; 1962, 5, 7; 1962, 2; 1964, 1; 1966, 12.

<sup>69</sup>"Quality of Concrete," *West African Building Research Institute Information Sheet* 4, Aug. 1954.

<sup>70</sup>"The Arcon Idea for Permanent Tropical Building: So Easy, So Fast, So Adaptable" (advertisement), *Crown Colonist*, Aug. 1954; "Arcon Tropical Roofing" (advertisement), n.d., PRAAD Accra, RG 7-1-921.

<sup>71</sup>Hannah Le Roux, "The Networks of Tropical Architecture," *Journal of Architecture* 8, 3 (2003): 337–54.

<sup>72</sup>Anthony Low and John Lonsdale, "Introduction: Towards the New Order 1945–1963," in Anthony Low and Alison Smith, eds., *A History of East Africa* (Oxford: Clarendon Press, 1976), vol. III, 1–63.

<sup>73</sup>Heike Jöns, "Centre of Calculation," in John A. Agnew and David N. Livingstone, eds., *The SAGE Handbook of Geographical Knowledge* (Los Angeles: Sage, 2011), 158–70.

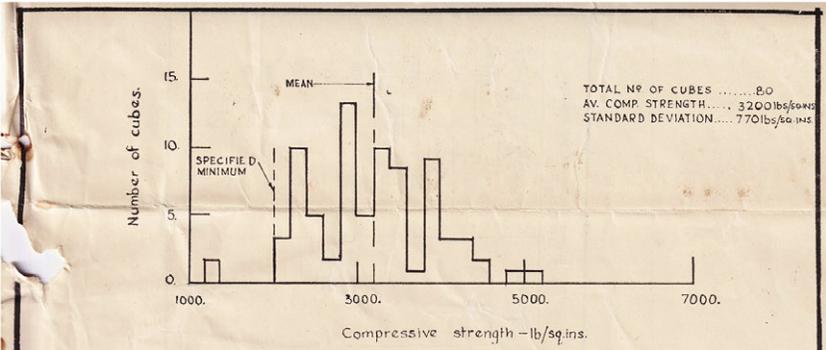


FIG. 4. ACCRA 1:2:4 MIX - 7 DAYS ORD. P. C.

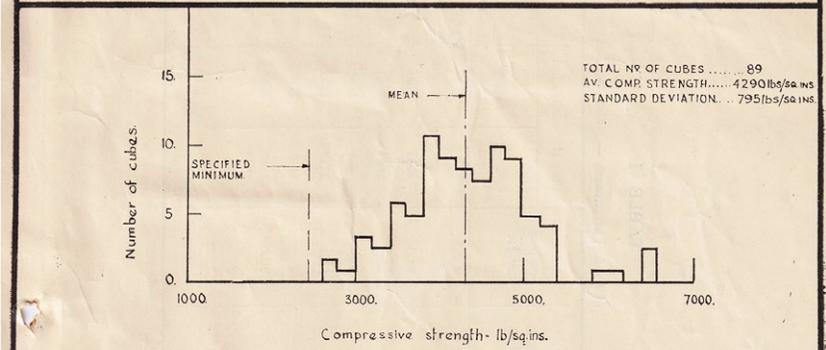


FIG. 5. ACCRA 1: 1 1/2:3 MIX - 7 DAYS ORD. P. C.

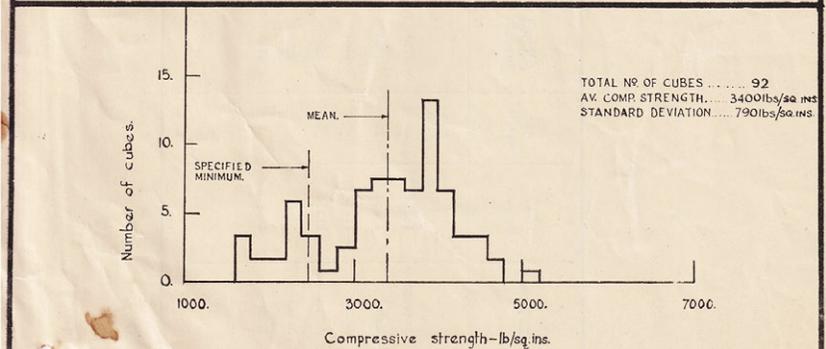


FIG. 6. LAGOS 1: 1 1/2:3 MIX - 7 DAYS ORD. P. C.

Figure 3. Compressive strength of concrete cubes. "Quality of Concrete," *West African Building Research Institute Information Sheet 4*, August 1954.

required site-specific data gathered by colonial administrators, whether climatic, technological, economic, social, or cultural. Yet the choice and definition of these parameters remained the prerogative of colonial and imperial institutions which "produced equivalences based on a mix of prescribed similitudes and cued

*THE*

# ARCON IDEA

*FOR PERMANENT TROPICAL BUILDING*

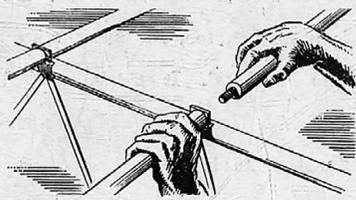
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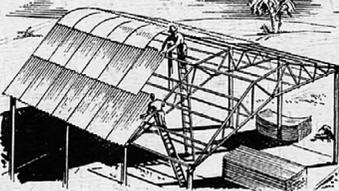


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# ARCON STRUCTURES

Figure 4. "The Arcon Idea for Permanent Tropical Building: So Easy, So Fast, So Adaptable" (advertisement). Crown Colonist, August 1954.



Figure 5. Housing in district C-27, Tashkent, Uzbekistan, 1973. Design by S. Adylov, I. Koptelova, and G. Korobovtsev. Author's photo, 2023.

distinctions—and the implicit mandate that others be ignored,” as anthropologist Ann Laura Stoler described mobilities of colonial knowledge.<sup>74</sup> In this way, hegemony by adaptation reinforced the double bind which Ghanaian professionals and administrators faced at independence: moving beyond British technological hegemony required site-specific knowledge and resources of which Britain remained the most advanced provider.

The Soviet proposal for Ghana promised to break this double bind, but this promise came with significant risks. The Soviets offered to provide Ghanaians with construction resources alternative to those delivered from Britain and, in so doing, to remove Ghana's dependency on colonial-era scientific, educational, and regulatory regimes and institutions. At the same time, Soviet experts emphasized that their resources could not be directly applied to Ghana but needed to be adapted to local conditions. This gave them credibility among Ghanaian professionals well-acquainted with colonial-era practices of adaptation. Yet their very acquaintance with these practices led Ghanaians to question how and by whom any adaptation was to be performed.

Trips by Ghanaians to Central Asia, such as the aforementioned 1963 visit to Tashkent, offered the Soviets an opportunity to address these questions. Soviet professionals emphasized that just as the construction technologies and architectural typologies first employed in the European parts of the Soviet Union had been adapted to the specificity of Uzbekistan, so too could they be modified for

<sup>74</sup>Ann Laura Stoler, *Carnal Knowledge and Imperial Power: Race and the Intimate in Colonial Rule* (Berkeley: University of California Press, 2002), 207.

application in Ghana.<sup>75</sup> A narrative about the similarity between Uzbek and Ghanaian conditions was intended to support this claim. Underlying this approach was the Soviet practice of developing variants of type designs suitable for specific climatic regions of the country's vast territory, and the further adaptation of these designs to the conditions of specific sites—a practice that came to be known as *priviazka*.<sup>76</sup> This Russian word, which means “binding,” “tying,” “linking,” or “affixing,” refers to the “affixing” of a design coming from elsewhere to a specific site, but also, by extension, “binding” the two geographies together in an uneven relationship. The adaptive parameters taken into consideration ranged from climate, geology, and seismology to questions of economic, historical, and ethnographic features.<sup>77</sup>

Among key concerns for the Ghanaian professionals visiting Uzbekistan was the adaptation of the Soviet housing industry, based since the late 1950s on large-scale prefabrication technology. The Soviets argued that this technology was the fastest and most economical solution to the housing crisis in Soviet cities. First introduced in the European parts of the Soviet Union, the technology was modified to accommodate the hot, dry Uzbek climate, resulting in design adjustments at every scale, from the neighborhood (*mikroraion*) to individual apartments.<sup>78</sup> Furthermore, the Soviets argued that the prefabricated technology lent itself to modification that accommodated ethnographic parameters, such as concepts of the “national traditions” and “ways of life” of the Uzbek population.<sup>79</sup> Soviet architects wanted to reflect these concepts through architectural decoration inspired by local artistic traditions, but occasionally they proposed more substantial experiments, such as modifying the *mikroraion* planning unit to accommodate *mahallas*, the traditional socio-spatial units of Uzbek communal life (figure 5).<sup>80</sup>

The similarities between the Soviet and the British experiences of adaptation were not lost on the Ghanaian professionals. These similarities reflected the intertwinement of architectural and construction cultures after World War II, even as these flows crossed Cold War divides in unequal and asymmetrical ways.<sup>81</sup> A case in point was the reception by Soviet professionals and scholars of the environmental knowledge produced in Britain and other colonial powers. In

<sup>75</sup>Anatolii Nikolaevich Rimsha, *Town Planning in Hot Climates* (Moscow: Mir Publishers, 1976); and *Gorod i zharkii klimat* (Moscow: Stroizdat, 1975); Eric George Alexander Don Arthur, “Nekotorye voprosy massovogo zhilishchnogo stroitel'stva v klimaticheskikh usloviyakh Gany,” PhD diss., Moscow Architectural Institute, 1974.

<sup>76</sup>Christina Crawford, “Soviet Planning Praxis: From Tractors to Territory,” *Centerpiece* 29, 2 (2015): 14–20. On the adaptation of Soviet architecture to climate, see Stéphane Gaessler, “Les grandes transformations de l'architecture et de l'urbanisme en URSS 1953–1965: Renouveau de la théorie et de la pratique dans l'architecture et l'urbanisme,” PhD thesis, Centre André Chastel, Paris, 2024, 505–20.

<sup>77</sup>R. J. Fuchs, “Soviet Urban Geography: An Appraisal of Postwar Research,” *Annals of the Association of American Geographers* 54, 2 (1964): 276–89; M. Zeitlin, “Urbanization and Settlement in Soviet Scholarship,” *Antipode* 13, 3 (1981): 32–38.

<sup>78</sup>Rimsha, *Town Planning*; and *Gorod*.

<sup>79</sup>K. S. Leykina and V. V. Pokshishevskij, “A Geography of the Way of Life: A Distinctive Subfield of Regional Economic Geography,” *Soviet Geography* 20, 5 (1979): 275–90.

<sup>80</sup>Boris Chukhovich, “Orientalist Modes of Modernism in Architecture: Colonial/ Postcolonial/ Soviet,” *Études de lettres* 2–3 (2014): 263–94.

<sup>81</sup>Ákos Moravánszky, Judith Hopfengärtner, Karl Kegler, and Torsten Lange, eds., *East West Central: Re-Building Europe, 1950–1990*, 3 vols. (Basel: Birkhäuser, 2016).

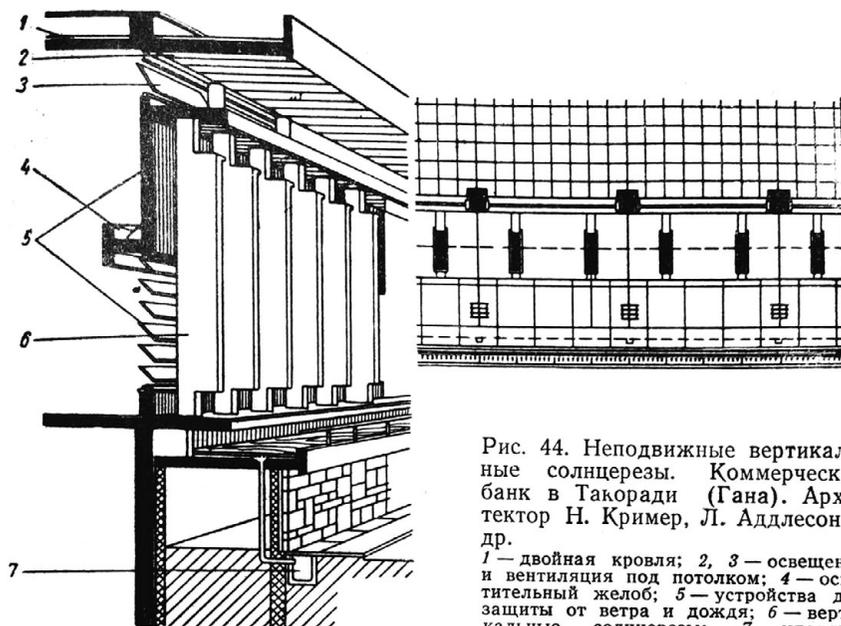


Рис. 44. Неподвижные вертикальные солнцезерезы. Коммерческий банк в Такоради (Гана). Архитектор Н. Кример, Л. Аддлесон и др.  
 1 — двойная кровля; 2, 3 — освещение и вентиляция под потолком; 4 — осветительный желоб; 5 — устройства для защиты от ветра и дождя; 6 — вертикальные солнцезерезы; 7 — удаление дождевой воды

Figure 6. Wall section of the Ghana Commercial Bank, Takoradi, Ghana, 1958. Design by Drake and Lasdun, with Norman Creamer (partner in charge), and Lyall Addleson, Harold Pugh, and Clem Shepherd (architects assisting). Veronika Leonidovna Voronina, *Opyt proektirovaniia zdaniia v stranakh tropicheskogo klimata* (Moscow: Stroiizdat, 1966).

particular, British tropical architecture was widely quoted in Soviet publications (figure 6).<sup>82</sup> Other aspects of the Soviet practice of adaptation would reverberate with Fry and Drew's postulates to account for local materials, technologies, aspirations, and needs.

However, Soviet practitioners reinterpreted these parameters in ways that reflected both their professional culture and broader Soviet visions of social and economic modernization. This reinterpretation featured environmental protection techniques built on foreign precedents, but also on earlier, czarist-era knowledge of "acclimatization" developed in the context of the Russian conquest of Central Asia.<sup>83</sup> The social parameters of "national traditions" and "ways of life" were another example. Never free of racialized fantasies, paternalistic attitudes, and formulaic

<sup>82</sup>Don Arthur, "Nekotoryie voprosy"; Rimsha, *Town Planning*; and Gorod; Vladimir Mikhaylovich Firsanov, *Arkhitektura grazhdanskikh zdaniia v usloviakh zharkogo klimata* (Moscow: Vyssh. Shkola, 1971); Lev Nikolayevich Kiselevich, V. A. Kossakovskii, and O. I. Rzhekhina, *Zhillishchnoe stroitel'stvo v usloviakh zharkogo klimata za rubezhom* (Moscow: Stroiizdat, 1965); Veronika Leonidovna Voronina, *Opyt proektirovaniia zdaniia v stranakh tropicheskogo klimata* (Moscow: Stroiizdat, 1966).

<sup>83</sup>Cassandra Cavanaugh, "Acclimatization, the Shifting Science of Settlement," in Nicholas Breyfogle, Abby Schrader, and Willard Sunderland, eds., *Peopling the Russian Periphery: Borderland Colonization in Eurasian History* (London: Routledge, 2007), 185–204.

application, these concepts conveyed a distinctly dialectical vision of Soviet modernization, according to which the past needed to be both destroyed and preserved as a modernizing resource.<sup>84</sup>

Yet perhaps the main difference from British-colonial practice was the Soviet promise of a more equal working relationship with Ghanaians. This promise reflected a broader discourse of “mutual advantage” that Khrushchev’s diplomats presented as the basis for Soviet collaboration with newly independent countries, as well as the Soviet claim to the status of the primary anti-racist and anti-colonial power in world politics. Central Asia was, once again, showcased as evidence for this claim, and the Soviets presented themselves as liberators of the Uzbeks, Tajiks, Kazakhs, and other peoples colonized by the czarist empire.<sup>85</sup>

Many of the Ghanaian professionals were taken aback by this paternalistic tone, and questioned the Soviets’ anti-racist credentials, in particular as newspapers in Accra reported on racist attacks on African students in the Soviet Union.<sup>86</sup> Even some of Nkrumah’s advisers such as Trinidadian Pan-Africanist George Padmore, who initially believed in the Soviet anti-colonial position, became skeptical.<sup>87</sup> And yet, administrators and professionals in Ghana understood that the conditions of collaboration with the Soviets would differ from Gold Coasters’ relationships with the British during the colonial period. That difference had as much to do with Ghana’s prestige as an independent country and its geopolitical significance for the Soviets as with the fact that Soviet presence in the region was recent, and Soviet knowledge about Western Africa was limited. While the diplomatic opening toward Africa and Asia under Khrushchev was followed by an accelerated institutionalization of Soviet knowledge production about these regions, it could not compete with the competence already accumulated in Western European colonial countries.<sup>88</sup> Furthermore, experience, both individual and institutional, with colonial-era architectural and building culture provided Ghanaian professionals with critical background that they could use to negotiate the Soviet offer.<sup>89</sup>

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<sup>84</sup>Nancy Lubin, *Labour and Nationality in Soviet Central Asia: An Uneasy Compromise* (London: Macmillan, 1984); Igor Demchenko, “Decentralized Past: Heritage Politics in Post-Stalin Central Asia,” *Future Anterior: Journal of Historic Preservation, History, Theory, and Criticism* 8, 1 (2011): 64–80; O. Smirnova, “General’nyi plan Kabula,” *Arkhitektura SSSR* 9 (1965): 28–34; I. Kibirev, D. Labin, and D. Levin, “Zhiloi kompleks v Kabule,” *Arkhitektura SSSR* 10 (1965): 49–56; and Chukhovich, “Orientalist Modes of Modernism.”

<sup>85</sup>Kalinovsky, *Laboratory*; Stronski, *Tashkent*.

<sup>86</sup>Nana Osei-Opore, “Uneasy Comrades: Postcolonial Statecraft, Race, and Citizenship, Ghana–Soviet Relations, 1957–1966,” *Journal of West African History* 5, 2 (2019): 85–111. See also Jeff Sahadeo, *Voices from the Soviet Edge: Southern Migrants in Leningrad and Moscow* (Ithaca: Cornell University Press, 2019); Maxim Matusevich, “Soviet Anti-Racism and Its Discontents: The Cold War Years,” in James Mark, Artemy M. Kalinovsky, and Steffi Marung, eds., *Alternative Globalizations: Eastern Europe and the Postcolonial World* (Bloomington: Indiana University Press, 2020), 229–50.

<sup>87</sup>Theo Williams, “George Padmore and the Soviet Model of the British Commonwealth,” *Modern Intellectual History* 16, 2 (2019): 531–59; and Leslie James, *George Padmore and Decolonization from Below: Pan-Africanism, the Cold War, and the End of Empire* (Houndmills: Palgrave Macmillan, 2015).

<sup>88</sup>Milton D. Morris, “The Soviet Africa Institute and the Development of African Studies,” *Journal of Modern African Studies* 11, 2 (1973): 247–65.

<sup>89</sup>Łukasz Stanek, “Socialist Worldmaking: The Political Economy of Urban Comparison in the Cold War,” *Urban Studies* 59, 8 (2022): 1575–96.



**Figure 7.** State House Complex (Job 600), Accra, 1965. Design by Ghana National Construction Corporation, Victor Adegbite (chief architect), and Witold Wojczyński and Jan Drużyński (project architects). Author's photo, 2012.

The fact that Ghanaian professionals were put in charge of the adaptation of imported resources to local conditions might have appeared to external observers as testifying to Ghanaian “control” over these imports. Yet professionals and mid-level administrators in Accra understood that such control was dependent on their ability to define the parameters according to which adaptation was performed. While British and Soviet practitioners agreed that architectural adaptation needed to account for climatic, economic, and social parameters, differences in their understanding of these parameters reflected their respective architectural and construction cultures. Often conflicted within themselves, each of these cultures was embedded in the realities of the British and Soviet construction industries. This meant that by defining adaptive parameters, Ghanaian professionals were taking a stance toward a specific vision of the construction industry in their country, as I will show in the following, final section. As the preceding overview makes clear, adaptation was a networked practice characterized by specific patterns of division of labor across various geographical locations. Accordingly, I argue that Ghanaian control over adaptation required a restructuring of the division of labor between Ghanaian professionals and their foreign counterparts.

### Negotiating Adaptation

The main challenge in studying the professional practices of Ghanaian architects during the 1960s is archival, as the documents are typically scarce, incomplete, and fragmented. An exception is the work of Victor Adegbite (1925–2014), the chief architect of the Ghana National Construction Corporation (GNCC). While far from complete, documents from public archives in Ghana and Russia, as well as the private archive of the Adegbite family in the United States, show how Adegbite navigated the multiplicity of resources coming from abroad. These include documents describing his leading role in the implementation of Soviet prefabrication technology in Ghana. Yet while in the latter case he followed the framework of the *priviazka* approach, most

of his work at the GNCC did not—rather, it conveyed a vision for the Ghanaian construction industry distinct from that proposed by the Soviets. Adegbite formulated this vision not by means of policy statements, but rather through his daily work on the selection, assessment, allocation, and adaptation of construction resources.

Adegbite's cosmopolitan educational trajectory prepared him for this work in Ghana. Born in 1925 in Accra, after graduating from the prestigious Achimota College, Adegbite left for Howard University's School of Architecture (1949–1954) in Washington, D.C. After graduation, he received a United Nations scholarship to study at the Interamerican Housing Center in Bogotá, Colombia (1955). His notes from the course show that it extended his knowledge beyond the Howard curriculum toward Spanish and French professional literature.<sup>90</sup> After returning to Ghana on Nkrumah's personal invitation, he assumed the position of chief architect at the Ghana Housing Corporation (GHC, 1957–1962) and then at the GNCC (1962–1966).<sup>91</sup> In this capacity he designed and supervised a vast number of buildings. His professional curricula vitae list his design authorship of the Farmers' Building, the headquarters of the Convention Peoples Party, and the State House Complex (today Ghana's Parliament), all in Accra, as well as the Presidential Lodge at Peduase (figure 7).<sup>92</sup> Yet his main interest was in residential buildings, including the development of several type housing designs offered by the GHC in varying cost categories (figure 8).<sup>93</sup> During his work at the GNCC he developed further type housing designs, and he continued this work as Chief Development Officer at the Tema Development Corporation (1966–1974) after having been deposed from the GNCC in the wake of the 1966 coup which overthrew Nkrumah. In 1974 he left for the United States, and never returned to Ghana.<sup>94</sup>

Among Adegbite's most challenging responsibilities as chief architect of the GNCC were the implementation of the Soviet concrete prefabricated elements factory, and two neighborhoods in Accra and Tema to be constructed from these elements. The contract for construction of the factory was signed in December 1962.<sup>95</sup> The design of the two neighborhoods, delivered by the Soviet design institute Gipragor in Moscow, was developed on the basis of economic, climatic, and geological data sent from Ghana.<sup>96</sup> This procedure, in which locally collected data was sent to Moscow, where architects and engineers used it to adapt Soviet precedents to Ghanaian conditions, closely resembled the division of labor that characterized colonial-era adaptation, and hence signaled a risk of the Soviets assuming a hegemonic role in Ghana's construction industry.

<sup>90</sup>Victor Adegbite, "Curriculum Vitae [1982]," Victor Adegbite Archive (henceforth VAA); Victor Adegbite, Bogota notebook, VAA.

<sup>91</sup>Adegbite, "Curriculum Vitae."

<sup>92</sup>Ibid.

<sup>93</sup>Ghana Housing Corporation, house types (plates), n.d., VAA.

<sup>94</sup>Adegbite, "Curriculum Vitae."

<sup>95</sup>"Panel Factory in Accra."

<sup>96</sup>"Spravka ob ekonomicheskoi tselesoobraznosti i konkurentosposobnosti krupnopanel'nykh zhilykh domov zaproektirovannykh dlia stroitel'stva v respublike Gana," Rossiiskii gosudarstvennyi arkhiv ekonomiki, Moscow, f. 5, op. 1, d. 140. See also Glavstrojproekt, "Edinye tekhnicheskie usloviia na proektirovanie predpriiatij i drugikh ob'ektov stroiashchikhsia v Respublike Gana pri tekhnicheskoi sodejstvii Sovetskogo Soiuza" (Moscow, 1962).

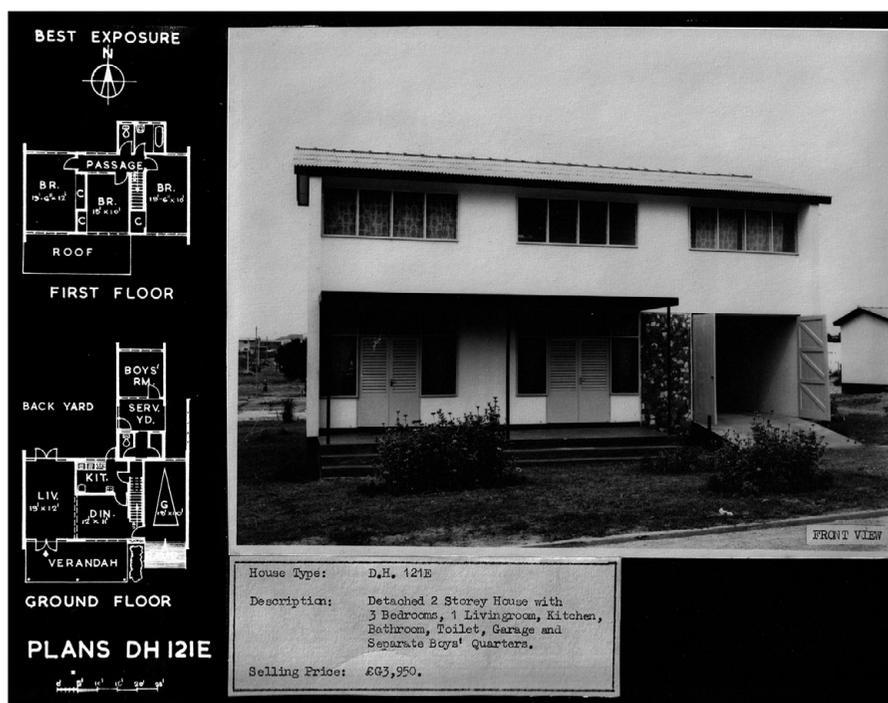


Figure 8. House type D.H. 121E, Ghana Housing Corporation, Ghana, 1950s. Archive of Victor Adegbite. Courtesy of the Adegbite Family.

The resulting design reflected the Soviet architects' interpretation of Ghana's local conditions. In accordance with the *priviazka* approach, environmental concerns were central to the architects' adaptation of neighborhood and apartment layouts. The distance between buildings in the general plan was expanded to allow the buildings to catch the breeze from the ocean.<sup>97</sup> This layout was reproduced by the Soviet planner Anatolii Nikolaevich Rimsha in his book *Urban Planning in Hot Climates* (1975). Rimsha juxtaposed the Soviet designs for Accra with Soviet plans for Kabul in Afghanistan, demonstrating the adaptability of the *mikroraion* typology across diverse climatic regions (figure 9).<sup>98</sup> An unusual intervention was the redesign of the apartments as a single room deep, with two load-bearing walls along the exterior (the standard Soviet design featured a two-room section). This reflected the emphasis on ventilation promoted by Soviet scholars, including Veronika Voronina and Irina Filippovich, who visited Ghana to investigate local architecture—Indigenous, colonial, and post-independence—and its requirements.<sup>99</sup> While the adapted floor plan secured cross-ventilation for each room, it also inflated the cost of usable space, thus putting the environmental control in collision with economic concerns.

<sup>97</sup>"Dwelling Houses in Accra and Tema" (1964), Rossiiskii gosudarstvennyi arkhiv nauchno-tehnicheskoi dokumentacii, Moscow, f. R-850, o. 9-4, d. 48; Stanek, *Architecture in Global Socialism*, 73–86.

<sup>98</sup>Rimsha, *Gorod*, 191; and *Town Planning*, 197–98.

<sup>99</sup>Veronika Leonidovna Voronina, "Zametki ob arkhitekture Gany," *Arkhitektura SSSR* 8 (1964): 46–51; and Irina Nikolaevna Filippovich, "Sovremennoe zhilishche Gany," *Arkhitektura SSSR* 8 (1964): 52–55.

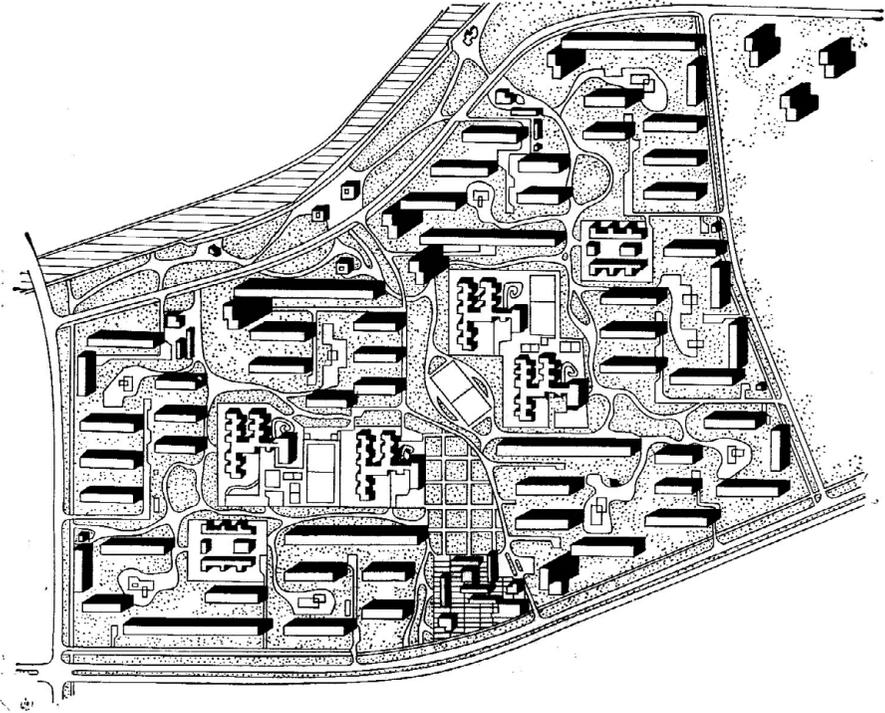


Рис. 11. Жилой комплекс с населением 11 тыс. человек и площадью 40 га в Кабуле. Планировка

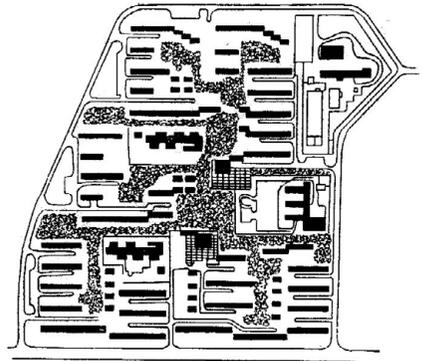


Рис. 12. Планировка жилого микрорайона в Аккре (Гана)

Figure 9. Soviet-designed housing neighborhoods in Kabul, Afghanistan (top) and in Accra, Ghana (bottom). Anatolii Nikolaevich Rimsha, *Gorod i zharkii klimat* (Moscow: Stroizdat, 1975).

Adegbite was put in charge of reviewing and revising the technical drawings. He was well-equipped to undertake this work since he had firsthand experience with the Soviet housing industry gained during a 1963 trip to the Soviet Union organized by the United Nations.<sup>100</sup> A comparison of the various versions of Soviet blueprints for the Tema neighborhood, as well as minutes of discussions at the GNCC, evidence

<sup>100</sup>“Report of the Study Tour of Building Technologists from Latin America, Africa, Asia and the Middle East to the Union of Soviet Socialist Republics, 3 to 31 July 1963” (New York: United Nations, 1964).

S/NO N.N. П.П.	HOUSE TYPE ТИП ДОМА	PLAN, SECTION, ELEVATIONS ПЛАН, РАЗРЕЗ, ФАСАДЫ	TECHNICAL AND ECONOMIC DATA ТЕХНИКО-ЭКОНОМИЧЕСКИЕ ПОКАЗАТЕЛИ										PROJECT REVENUE ПРОЕКТ ДОХОД
			NUMBER OF FLATS КОЛИЧЕСТВО КВАРТИР	NUMBER OF FLOORS КОЛИЧЕСТВО ЭТАЖЕЙ	NUMBER OF FLATS PER FLOOR КОЛИЧЕСТВО КВАРТИР НА ЭТАЖЕ	NUMBER OF FLOORS PER FLAT КОЛИЧЕСТВО ЭТАЖЕЙ НА КВАРТИРУ							
1	A 2-2		4	8	2	276.4	5056	221.12	404.64	156.89	1500.59	1 2 25 26 27	
2	A 3-3		4	8	3	42.43	6775	338.44	542.00	174.03	1950.52 1960.52	3 4 25 26 27	
3	A 4-4		4	8	4	52.21	84.92	467.66	679.36	212.18	2400.38	5 6 25 26 27	
4	B		4	8	1	16.91 12.40	27.72 23.21	254.46	407.44	155.89	1520.59	7 8 25 26 27	
5	C		2	1	6	71.42	96.31	71.42	96.31	63.18	587.61 362.21	9 10 25 26 27	
DWELLING HOUSES IN ACCRA AND TEMA СПИСОК СЕРИЙНЫХ ДОМОВ В АККРЕ И ТЕМАХ LIST OF SERIES HOUSES ЖИЛИЩЕ ДОМА В АККРЕ И ТЕМАХ ДОМА 2А3-3, 2А3-4, 2А4-4, 3А3-3, 3А4-4, 3С, 3С ОБЪЕДИНЕННЫМ КОС ОСНОВНЫМ ДОМОМ 3С-3, А8-4, С.												2	

Figure 10. “Dwelling Houses in Accra and Tema. List of Series Houses,” 1964. Design by Gipragor, A. Panfil’, L. Il’chik, and G. Korneeva. Rossiiskii gosudarstvennyi arkhiv ekonomiki, Moscow, Russian Federation.

Adegbite’s interventions into the design process (figure 10). He requested to increase ceiling heights in order to further facilitate cross-ventilation. He also modified the floor section to simplify its construction and revised window specifications to lower costs.<sup>101</sup> A major change was the redesign of the kitchen area, which was reduced to make room for a loggia that could be used for cooking outdoors—a common practice in West Africa.<sup>102</sup> All of these changes took place within the parameters of the Soviet *priviazka* approach, from environmental control across various scales to a vision of an egalitarian society that was differentiated not by class but by specific “ways of life,” such as the practice of cooking outdoors. Soviet decision-makers grudgingly accepted these modifications in spite of the resulting additional costs and delays. While the factory was built, the construction of the neighborhoods was abandoned after the coup which ended Nkrumah’s rule. Only six buildings were built in Tema, much later and based on modified plans (figure 11).

The coup interrupted not just the implementation of the Soviet projects, but also the vision of Ghana’s convergence with the Soviet economic, technological, educational, and regulatory regimes. Even under Nkrumah such a convergence had been a distant prospect for Ghana’s construction industry, which was only slowly being integrated into a state-owned and centrally planned economy. In contrast to the Soviet construction industry, the GNCC and other state institutions in Ghana had no monopoly on the country’s design and construction services, and

<sup>101</sup>“Vypiska iz protokola,” Rossiiskii gosudarstvennyi arkhiv ekonomiki, f. 5, op. 1, d. 334.

<sup>102</sup>“Dwelling Houses in Accra and Tema.”



Figure 11. Housing in Tema, Ghana, 1970s. Designs by Gipragor (modified). Author's photo, 2022.

when executing major investments, the GNCC subcontracted private construction firms. These included British companies, firms based in Ghana but operated by expatriates, and in particular, African contractors. This approach reflected both a necessity and an aspiration: it was impossible for the GNCC to execute governmental investment projects without mobilizing the resources and labor of private companies, and subcontracting African builders facilitated the Africanization of the construction industry, a priority for Nkrumah since before independence.<sup>103</sup>

This way of working comes to the fore in Adegbite's decisions concerning the selection, allocation, and adaptation of resources from abroad. These included construction machinery and materials from socialist countries which, rather than being fully absorbed by the GNCC, were sometimes allocated to private contractors, a common practice at Ghanaian construction sites. For example, records from the construction site of the Asutsuare sugar factory show that the Polish building managers were requested by the Ghanaian authorities to share construction resources with an African construction company in charge of housing for staff and workers.<sup>104</sup> The distribution of imported resources was often hotly debated between the GNCC and the responsible ministries in Accra, including disagreements over the prospects of the country's brick industry. Several professionals questioned the wisdom of investing in brick factories at a time when the government was already building the Soviet prefabricated elements plant. They emphasized the need to instead complete the cement plant in Takoradi, an unfinished colonial-era project executed under Nkrumah by state companies from socialist Poland. Others supported the parallel development of brick factories and looked for synergies

<sup>103</sup>Łukasz Stanek, "Race, Time, and Architecture: Dilemmas of Africanization in Ghana, 1951–66," *Journal of the Society of Architectural Historians* 83, 2 (2024): 191–208.

<sup>104</sup>Cekop-Chemak, "Kombinat cukrowniczy w Ghanie," May 1965, *Archiwum Akt Nowych*, 2-2309-0-130.

between both systems.<sup>105</sup> By the mid-1960s at least one such brick factory was planned in Ghana, with machinery provided by Czechoslovakia, and operations based on local deposits of clay and semi-skilled labor.<sup>106</sup>

The discrepancy between a possible construction industry that could make full use of the Soviet prefabricated elements factory and the reality of the GNCC's operations cannot be reduced simply to the challenges of conforming Ghana's construction industry to a Soviet precedent. Neither should the GNCC's distribution of resources among African contractors be seen as merely a pragmatic approach. Rather, it suggests a tension between two possible prospects of Ghana's construction industry. The first followed the Soviet precedent of a state-owned and centrally planned economy. The second envisaged a collaboration between public and private companies, including African contractors, based on diversified, small-scale, and regionally distributed production of construction materials. These two ideas were not necessarily irreconcilable, yet while the latter could have been seen as a preparatory stage for the former, such preparation would have taken decades.

The tension between these two prospects, exemplified in the work of the GNCC, can also be seen in the government's Seven-Year Development Plan. When mentioning the Soviet factory, the Plan stated, "It is expected that the factory now being projected to manufacture prefabricated building parts will before long be able to use local materials on a large scale."<sup>107</sup> Yet this expectation is hardly supported by the Plan's other recommendations. A section devoted to the construction industry did not propose any investments that would consolidate this industry around the prefabricated elements factory, such as building components for these elements, specialized construction companies, or transport infrastructure.<sup>108</sup> Rather, the Plan emphasized the need to create construction material industries based on local limestone, clay, sand, and timber in order to reduce the import of construction materials. It also stressed the need to standardize and modularize the locally produced components, such as timber door and window frames intended to replace imported steel frames.<sup>109</sup>

It is likely that Adegbite, a consultant on the Plan, wrote these recommendations.<sup>110</sup> These statements are consistent with his decisions at the GNCC concerning imported construction resources. A case in point was his review of the Luecke prefabricated building system (1961), one of many proposals submitted by foreign manufacturers to Ghanaian authorities after independence. Based on the firm's experience in Southern California, Mexico, El Salvador, Guatemala, the Philippines, and Puerto Rico, Luecke representatives touted the use of local resources and Indigenous labor for the construction of Luecke houses, as well as these houses' suitability for the means and needs of low-income groups (figure 12).<sup>111</sup>

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<sup>105</sup>"The Soviet Specialists' Considerations on the Question of Construction of 8 Brick and Tile Factories in the Republic of Ghana," PRAAD Accra, RG 7-1-1691; "Questionnaire," RG 7-1-1829.

<sup>106</sup>"Government Participation."

<sup>107</sup>"Seven-Year Plan for National Reconstruction and Development. Financial Years 1963/64–1969/70" (Accra: Office of the Planning Commission, 1964), 99.

<sup>108</sup>This contrasted with the concern to integrate the construction economy as seen in the Soviet technical assistance for Mongolia; see Nikolay Erofeev and Łukasz Stanek, "Integrate, Adapt, Collaborate: Comecon Architecture in Socialist Mongolia," *ABE Journal* 19 (2021), <http://journals.openedition.org/abe/12604>.

<sup>109</sup>"Seven-Year Plan," 98–100.

<sup>110</sup>*Ibid.*, 304.

<sup>111</sup>"Modern Pre-Engineering: Luecke Building Systems," PRAAD Accra, RG 7-1-7.



Figure 12. “Modular Building System ‘Lucke.’ New Development with Pre-Engineered Houses” (advertisement), n.d.

Adegbite paid particular attention to the argument that the Luecke system would allow reuse of waste material from the agricultural industry, including sugar cane production, which was expanding in Ghana at that time.<sup>112</sup> Accordingly, an official at the Ministry of Construction and Communication suggested importing a Luecke building prototype, with the expectation that government architects would “adapt the system to many designs.”<sup>113</sup>

Only after Adegbite left for the United States in 1974 did he reflect in writing on his housing designs in Ghana. In his annotated curriculum vitae, he described this work as informed by three objectives. The first was “to minimize the importation of building materials as much as possible,” as exemplified by his designs for low-cost experimental housing projects in Tema, constructed of brick, wood, and sandcrete (sand mixed with Portland cement).<sup>114</sup> They were based on modular structures intended to simplify housing construction by means of small-scale prefabrication systems that, unlike the Soviet system, did not require sophisticated machinery to produce and transport. Such systems, he argued, would comply with his second objective, which was to design low-income housing that would not need to be subsidized by the government.<sup>115</sup> His third objective was the “provision of

<sup>112</sup>Victor Adegbite, “Prefabricated Houses: The Luecke Building Systems,” 6 Nov. 1961, VAA.

<sup>113</sup>“Prefabricated Houses,” 10 Jan. 1962, PRAAD Accra, RG 7-1-7. The file is incomplete and contains no information about the follow-up on these suggestions.

<sup>114</sup>Adegbite, “Curriculum Vitae,” 6, VAA.

<sup>115</sup>Ibid.

functionally acceptable house-types for people of different cultural development with corresponding needs and capacities to pay for their housing.”<sup>116</sup>

Adegbite’s attention to the daily practices of prospective users can be seen in his 1970s design work at the Tema Development Corporation, where he collaborated with architect Emmanuel Oko Adjetejey. In an article written in 1971, Adjetejey discussed the fast-changing habits and attitudes of people in post-independence Ghana, and the obligation of architects to suit the flexible and fluid patterns of inhabitants’ everyday lives. “Our social goals are not restricted to prevail[ing] social characteristics of families, but in addition [extend to] their aspirations and trends,” he wrote.<sup>117</sup> Adjetejey argued that the designs of patio houses that he delivered with Adegbite were expanding upon Indigenous morphologies such as the “Kweishi,” “Odanpan,” and “Agbasa” in the Ga, Twi, and Ewe languages, respectively.<sup>118</sup> Adegbite’s three objectives echoed the parameters that had informed much of his work at the GNCC during the 1960s, including his decisions concerning the selection, allocation, and adaptation of imported resources.

While Adegbite’s ultimate goal was to do away with the import of construction resources altogether, he was aware that some imports would be necessary to achieve this goal in the future. The ways in which he negotiated these resources offered a double response to the question of the extent of control which Ghanaian mid-level professionals and administrators had over this process. In some cases, such as the Soviet factory and the two neighborhoods, Ghanaian architects were able to modify the technical drawings according to their understanding of the local conditions, but only within the hegemonic framework of Soviet architectural culture. In other, more numerous, work, Adegbite and his colleagues at the GNCC did not follow the Soviet framework when working with imported resources, including resources coming from the Soviet Union and Eastern Europe. Instead, Adegbite endorsed an alternate vision of Ghana’s construction industry. In this vision, state enterprises collaborated and supported African contractors and manufacturers in order to maximize the use of local materials, including agricultural waste, to lower construction costs, and to respect the preferences of the often diverse inhabitants. The practice of adaptation was, for Adegbite, a way to reflect on the direction of Ghana’s construction economy, to define it, to communicate it up the chain of command, and to begin to implement it.

## Conclusions

This paper has examined Ghana’s construction industry after the country achieved independence and opened up beyond the British Empire to accept resources and expertise from the Soviet Union and other socialist countries. I have considered this industry both as a significant sector of the national economy and as an indispensable facilitator of other areas of economic and social development. In contrast to most historical studies, this paper has not followed high-ranking bureaucrats, diplomats, and economic advisors in charge of development plans from the late colonial to the post-independence periods. Rather, I have focused on mid-level administrators and

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<sup>116</sup>Ibid.

<sup>117</sup>E. O. Adjetejey, “Functional Housing Design in Architecture in Ghana,” 1971, n.p., VAA.

<sup>118</sup>Ibid.

professionals such as Victor Adegbite who, in his role as chief architect at the GHC and GNCC, was in charge of implementing government investments.

I have shown that this implementation required the employment of construction resources arriving from abroad, including Britain, Western Europe, and the United States, as well as from the Soviet Union, other socialist countries, and non-aligned states. I have explained the ways in which Adegbite and others at the GNCC managed this multiplicity of resources, and how they selected, assessed, allocated, and adapted them to Ghana's means and needs. We have seen how Ghanaian professionals negotiated the Soviet offer by, for instance, modifying Soviet designs. This perspective also makes clear that architects and engineers in Accra allocated resources from socialist countries in ways that did not always follow Eastern European and Soviet precedents, for example by distributing them among private African contractors. My study of these practices also highlighted continuities between colonial-era and post-independence development, since some investments by socialist countries, such as the cement plant in Takoradi, had been first proposed by colonial-era development plans. In this way, this study has shown the limits to the Soviet influence in Ghana and the distance between Ghana's development and Soviet precedents.

I have argued that this distance was not solely a result of the challenges faced by professionals charged with implementing foreign resources. Rather, a focus on the work of Adegbite and his colleagues suggests that these professionals were often skeptical toward Soviet proposals for Ghana's construction industry. While some of their work consisted of implementing Soviet technology in Ghana, elsewhere they supported collaboration between state and private African enterprises and aimed to maximize the use of locally sourced materials. Given Adegbite's role as an advisor on the Seven-Year Plan, I have argued that these experiences affected the wording of the Plan, which helps to account for tensions within the Plan's recommendations.

I developed my argument by focusing on the practice of adaptation, which architects in Ghana saw as their core professional competence in mobilizing foreign construction resources in their country. I proposed looking at adaptation as a reflexive practice—one in which the professionals in charge modify construction resources to suit local needs, means, and objectives, while also reconsidering what these needs, means, and objectives are. By studying the adaptive practices by Ghanaian architects and administrators in this way, I have shown how they assumed positions toward specific prospects for Ghana's economy and society. I discussed how the parameters of adaptation, as performed in the Gold Coast during the late colonial period and in Soviet Central Asia, were informed by competing professional traditions, and by the social and economic imaginations among the professionals in charge. By paying attention to the ways in which Adegbite and his colleagues confirmed, challenged, or redefined these parameters when adapting foreign resources at the GNCC, I clarified the positions of Ghanaian professionals toward received visions of Ghana's construction industry, and reconstructed their alternative conceptions about this industry and the economy at large.

Beyond the focus on the Ghanaian construction industry, the broader relevance of this paper is twofold. First, it offers a reconceptualization of technological hegemony in the early Cold War. While historians have often understood this hegemony in terms of the most advanced equipment, this paper addressed much more widespread and less-advanced technologies. These included construction materials and machinery, and their associated building regulations and educational standards.

They were supported by a network of commercial actors and research institutions that produced and circulated construction resources and knowledge. Furthermore, rather than seeing hegemony only in terms of an imposition of foreign technologies, whether British or Soviet, I have identified hegemonic relationships in the practice of adapting these technologies to local conditions. The practice of adaptation that modified metropolitan technologies to suit local conditions made these technologies attractive to Ghana, thus further facilitating imports and deepening Ghana's dependency on foreign resources. This dependency included not only economic debt and political leverage, but also pressure to align the Ghanaian industry with foreign technological, educational, scientific, and regulatory regimes. Construction resources were adapted by a network of institutions and actors which was characterized by a geographically uneven division of labor. The most advanced, value-adding, and innovative work continued to be carried out abroad, and local professionals were expected to collect site-specific data and to implement foreign designs. While I have conceptualized hegemony by adaptation in order to discuss Ghana's construction industry, this concept may be useful for scholars working in other areas as well.

The second, larger point of this paper pertains to the ways in which Indigenous actors responded to this hegemony by adaptation. In some cases—such as Soviet prefabrication technologies—they adapted these technologies to local conditions that they interpreted along the lines of the Soviet architectural culture in general and the *priviazka* practice specifically. In others, however, they revised the parameters according to which adaptation was performed and challenged the division of labor expected by Soviet institutions. The overarching set of parameters appeared similar in both the British and Soviet professional traditions, and Ghanaian architects agreed with their foreign counterparts that imported construction resources needed to be adequate, suitable, and appropriate to the climatic, economic, and social conditions of Ghana. However, the specific meaning of these parameters differed according to the respective professional traditions and broader imaginations of the economy and society in which these traditions were embedded. Accordingly, this paper has shown how these parameters were debated and negotiated by the professionals in question, whether implicitly or explicitly. While the heterogeneity of professional traditions intersecting in Ghana during the 1960s was often confusing and overwhelming for Ghanaian professionals, this cosmopolitan environment also afforded them with a comparative vantage point and an epistemic distance from particular traditions or practices, whether British, Soviet, or others.<sup>119</sup> By discussing the work of Adegbite and his colleagues, I have conceptualized African agency beyond the registers of resistance and resource extraction that have dominated historical scholarship on economic exchanges in the global Cold War. Against such a reactive framework, examining adaptive practices points at the ways in which ideas about economy and society were developed by African professionals and administrators from the middle of things, notably things architectural arriving from within and across geopolitical divides.

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<sup>119</sup>Stanek, “Socialist Worldmaking.”

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