



ARCHITECTURE IN DEVELOPMENT

— Systems and the Emergence
of the Global South

AGGREGATE

ROUTLEDGE



Architecture in Development

This extensive text investigates how architects, planners, and other related experts responded to the contexts and discourses of “development” after World War II. Development theory did not manifest itself in tracts of economic and political theory alone. It manifested itself in every sphere of expression where economic predicaments might be seen to impinge on cultural factors. Architecture appears in development discourse as a terrain between culture and economics, in that practitioners took on the mantle of modernist expression while also acquiring government contracts and immersing themselves in bureaucratic processes. This book considers how, for a brief period, architects, planners, structural engineers, and various practitioners of the built environment employed themselves in designing all the intimate spheres of life, but from a consolidated space of expertise. Seen in these terms, development was, to cite Arturo Escobar, an immense design project itself, one that requires radical disassembly and rethinking beyond the umbrella terms of “global modernism” and “colonial modernities,” which risk erasing the sinews of conflict encountered in globalizing and modernizing architecture.

Encompassing countries as diverse as Israel, Ghana, Greece, Belgium, France, India, Mexico, the United States, Venezuela, the Philippines, South Korea, Sierra Leone, Singapore, Turkey, Cyprus, Iraq, Zambia, and Canada, the set of essays in this book cannot be considered exhaustive, nor a “field guide” in the traditional sense. Instead, it offers theoretical reflections “from the field,” based on extensive archival research. This book sets out to examine the arrays of power, resources, technologies, networking, and knowledge that cluster around the term “development,” and the manner in which architects and planners negotiated these thickets in their multiple capacities—as knowledge experts, as technicians, as negotiators, and as occasional authorities on settlements, space, domesticity, education, health, and every other field where arguments for development were made.

The Aggregate Architectural History Collaborative is dedicated to advancing research and education in the history and theory of architecture. Since 2006, Aggregate has held dozens of workshops and symposia throughout North America in partnership with major universities, exhibitions, and research centers. Aggregate presents innovative scholarship on its website we-aggregate.org and has published the collected volumes *Governing by Design: Architecture, Economy, and Politics in the Twentieth Century* (2012) and *Writing Architectural History: Evidence and Narrative in the Twenty-First Century* (2021).

Architecture in Development is edited for Aggregate by Arindam Dutta, Professor of Architectural History and Theory at the Massachusetts Institute of Technology; Ateya Khorakiwala, Assistant Professor of Architecture at the Columbia University; Ayala Levin, Associate Professor in the Department of Architecture and Urban Design at the University of California, Los Angeles; Fabiola López-Durán, Associate Professor of Art and Architectural History at Rice University; and Ijlal Muzaffar, Associate Professor of Modern Architectural History at the Rhode Island School of Design.

“Brilliantly questioning the figure of ‘development’ that haunts modernism, *Aggregate* gets down to the dirt of the Bretton-Woods world: the entanglement of architectural discourse in food insecurity and mining infrastructures, debt servicing and dictators, supply chains of materials and expertise. A must-read for architectural thinkers.”

Swati Chattopadhyay, *University of California, Santa Barbara, USA*

“This timely book addresses a major blind spot in contemporary architectural scholarship: the central role of the design disciplines in the processes of modern, postcolonial development in creating the exclusions and inequalities of our time.”

Fernando Lara, *Potter Rose Professorship, University of Texas at Austin, USA*

Architecture in Development

Systems and the Emergence
of the Global South

Edited by Aggregate

Cover Image: Gustavo Diaz, *Detalle de la cartografía hallada en la Abadía Benedictina de Otobeuren*. Fechada y firmada: Siglo V a.C., Lotfi Asker Zadeh. (Papel incendiado rescatado del Segundo Gran Incendio. Actualmente conservado en el Museo de la Eterna.)

First published 2022
by Routledge
4 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

and by Routledge
605 Third Avenue, New York, NY 10158

Routledge is an imprint of the Taylor & Francis Group, an informa business

© 2022 selection and editorial matter, Aggregate; individual chapters, the contributors

The right of Aggregate to be identified as the author of the editorial material, and of the authors for their individual chapters, has been asserted in accordance with sections 77 and 78 of the Copyright, Designs and Patents Act 1988.

All rights reserved. No part of this book may be reprinted or reproduced or utilised in any form or by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying and recording, or in any information storage or retrieval system, without permission in writing from the publishers.

Trademark notice: Product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation without intent to infringe.

Every effort has been made to contact copyright-holders. Please advise the publisher of any errors or omissions, and these will be corrected in subsequent editions.

British Library Cataloguing-in-Publication Data
A catalogue record for this book is available from the British Library

Library of Congress Cataloging-in-Publication Data
Names: Aggregate (Group), editor.
Title: Architecture in development: systems and the emergence of the global South/edited by Aggregate.
Description: Abingdon, Oxon; New York: Routledge, 2022. | Includes bibliographical references and index.
Identifiers: LCCN 2021043472 (print) | LCCN 2021043473 (ebook) | ISBN 9781032045320 (hardback) | ISBN 9781032045337 (paperback) | ISBN 9781003193654 (ebook)
Subjects: LCSH: Architecture and society—History—20th century. | Architecture—Economic aspects—History—20th century. | Economic development—History—20th century.
Classification: LCC NA2543.S6 A63125 2022 (print) | LCC NA2543.S6 (ebook) | DDC 720.1/03—dc23
LC record available at <https://lccn.loc.gov/2021043472>
LC ebook record available at <https://lccn.loc.gov/2021043473>

ISBN: 978-1-032-04532-0 (hbk)
ISBN: 978-1-032-04533-7 (pbk)
ISBN: 978-1-003-19365-4 (ebk)

DOI: 10.4324/9781003193654

Typeset in Minion
by Apex CoVantage, LLC

Contents

<i>Acknowledgments</i>	<i>ix</i>
<i>List of contributors</i>	<i>xi</i>
Introduction	1
<i>Arindam Dutta, Ateya Khorakiwala, Ayala Levin, Fabiola López-Durán, and Ijlal Muzaffar for Aggregate</i>	
Part I Developmental time	23
1 Incompletion: on more than a certain tendency in postwar architecture and planning	25
<i>Arindam Dutta</i>	
2 God's gamble: self-help architecture and the housing of risk	47
<i>Ijlal Muzaffar</i>	
Part II Expertise	63
3 Planning for an uncertain present: action planning in Singapore, India, Israel, and Sierra Leone	65
<i>Ayala Levin</i>	
4 To which revolution? The National School of Agriculture and the Center for the Improvement of Corn and Wheat in Texcoco and El Batán, Mexico, 1924–1968	85
<i>Nikki Moore</i>	
5 From rice research to coconut capital	105
<i>Diana Martinez</i>	

6	“The city as a housing project”: training for human settlements at the Leuven PGCHS in the 1970s–1980s <i>Sebastiaan Loosen, Viviana d’Auria, and Hilde Heynen</i>	123
Part III Bureaucratic organization		141
7	Folders, patterns, and villages: pastoral technics and the Center for Environmental Structure <i>Ginger Nolan</i>	143
8	The technical state: programs, positioning, and the integration of architects in political society in Mexico, 1945–1955 <i>Albert José-Antonio López</i>	161
9	“Foreigners in filmmaking” <i>Felicity D. Scott</i>	179
Part IV Technological transfer		195
10	The making of architectural design as <i>Sölgye</i> : integrating science, industry, and expertise in postwar Korea <i>Melany Sun-Min Park</i>	197
11	Infrastructures of dependency: US Steel’s architectural assemblages on Indigenous lands <i>Manuel Shvartzberg Carrió</i>	217
12	Reinventing earth architecture in the age of development <i>Farhan Karim</i>	237
Part V Designing the rural		257
13	Globalizing the village: development media, Jaqueline Tyrwhitt, and the United Nations in India <i>Olga Touloumi</i>	259
14	“Ruralizing” Zambia: Doxiadis Associates’ systems-based planning and developmentalism in the nonindustrialized South <i>Petros Phokaidēs</i>	279
15	Food capital: fantasies of abundance and Nelson Rockefeller’s architectures of development in Venezuela, 1940s–1960s <i>Fabiola López-Durán</i>	303

CONTENTS	vii
16 The Jewish Agency's open cowsheds: Israeli third way rural design, 1956–1968 <i>Martin Hershenzon</i>	323
17 Floors and ceilings: the architectonics of accumulation in the Green Revolution <i>Ateya Khorakiwala</i>	343
Part VI Land	363
18 Policy regionalism and the limits of translation in land economics <i>Burak Erdim</i>	365
19 Leisure and geo-economics: the Hilton and other development regimes in the Mediterranean South <i>Panayiota Pyla</i>	381
20 Antiparochi and (its) architects: Greek architectures in failure <i>Konstantina Kalfa</i>	401
<i>Index</i>	417

Introduction

Arindam Dutta, Ateya Khorakiwala, Ayala Levin,
Fabiola López-Durán, and Ijlal Muzaffar for Aggregate

The chapters in this volume look at how architects, planners, and other related experts responded to the contexts and discourses of “development” after World War II. The discourses of development augured both an institutional shift and a cultural turn in the processes of modernization and capital formation around the world. They entailed an intensification and expansion of knowledge and expertise that accompanied the formation and transformation of new nation-states, transformed governmental mandates, and expanded franchises, along with the accompanying shifts in cultural and economic imaginaries. These chapters explore histories of architecture and urban planning that both participated in and were driven by these shifts. In large part, the discourses of development were not new. On the one hand, they referred back to ideas about transitions to modern forms of society from agrarian and “primitive” societies that had been prevalent since the eighteenth century, ideas that were given a statutory (and violent) mandate in the Soviet Union’s New Economic Policy in the interwar years. On another level, they linked back to archaic arguments of pastoral power, often rehearsing classical arguments about the relationships of state, society, and sovereignty as well as the uses and place of knowledge in managing these relations. The Foucauldian themes of governmentality and biopolitics—knowledge forms revolving around the nature of wealth, population, territory, health, hygiene, consumption, and the disciplining of behavior—were central to these new deployments of expertise, often seeking to replace politics in the classic sense. Considerable areas of overlap lay between colonial and postcolonial regimes in this regard, not least the critical significance that colonizer and (ex-)colonized accorded to the realm of “culture,” seen both as a wellspring but also as an obstruction in these discourses of freedom and emancipation. Consequently, development theory would not manifest itself in tracts of economic and political theory alone. It would manifest itself in song poetry, cinema, theater, literature and art, indeed in every sphere of expression where economic predicaments might be seen to impinge on cultural imaginaries.

Architecture and urban planning would appear in development discourse as a crucial terrain operating somewhere between culture and economics. Architects styled themselves both as aesthetic world-builders, styling the flurry of institution-building that took place in developing countries at this time in an array of modernist forms, and as mundane contractors, making claims on fiscal outlays and immersing themselves in bureaucratic and procurement processes. For a brief period of time, architects and planners found themselves at the deliberative table wherever projects were being conceptualized, tasked to undertake

buildings dedicated to political, biopolitical, or cultural functions, working alongside economists, doctors, researchers, politicians, and industrialists to design the very manner in which people ate, learned, worked, and produced. Development was, to cite Arturo Escobar, an “immense design project” itself,¹ one that today requires radical disassembly and rethinking beyond innocuous terms like “global modernism” and “colonial modernities” that risk erasing the sinews of conflict encountered in these globalizing and modernizing projects. This book seeks both to investigate and assemble ongoing scholarship on *architecture in development*, attending equally to the conflicting politics of knowledge and hierarchies of resource mobilization embedded in the resulting architectural forms.

If economic growth, defined by technological advances and industrialization, was seen as essential to support the newfound freedoms of the developing world, culture provided an alternative tent under which the philosopher-princes of development theory could gather the collective and individual drivers of motivation. What went by the name of development “theory,” therefore, was not some unitary concept but as an unwieldy smorgasbord of themes, initiatives, and interventions. As such, these ideas would assume many avatars across the world, infusing the political language of wildly opposed, inconsistent, and unrelated views of savant and gangster alike, affording ideological shelter *both* for hegemonic regimes of different kinds *and* opposition to them. Utilized as a shared *lingua franca* by despots, Oxbridge and LSE-trained heresiarchs, social justice movements, militaries, bureaucrats, and guerrillas, by non-Marxists and Marxists alike, the rhetoric of development would also provide cover for umpteen private and public idiosyncrasies and hobbyhorses, enabling different cliques to establish little and large fiefdoms in bureaucracies, governments, and universities alike. Its keywords would be used to legitimate a vast variety of professions and pursuits, from the lowest tier of political bosses and fixers to large knowledge-institutional and fiscal networks composed of scientists, technicians, bureaucrats, and consultants, not to rule out expanding global cohorts of expertise-peddling hacks and charlatans.

Any timeline of development history that we may provide here must consequently only be a provisional one. Decolonization was not some singular, uniform, or even controlled process, given the myriad juridical and governmental norms as well as economic rationales with which various colonial regimes came to control large tracts of territory around the world. At the turn of the twentieth century, many Latin American and Asian countries, including China, were nominally independent even if their sovereign powers were strongly controlled by semicolonial domains of influence, many of which slid handily into neocolonial forms of dominance after the Second World War. Likewise, the premise of sovereignty in the newly independent countries of the mid-twentieth century were significantly complicated by the onset of the Cold War almost immediately after the war, leading to brutal counterinsurgency wars in Malaya, Kenya, Vietnam, and Algeria. If World War II ended centuries of warfare over national boundaries in Europe, the European exit from the colonies would, by contrast, instigate—and actively propagate—new waves of warfare among territories tentatively kept at peace by imperial *détente* in the metropole. The five years after the Second World War would see the largest population migrations ever in history, and state-formation in the Third World would be accompanied by equally unprecedented mass slaughter and genocide on unimaginable scales, establishing patterns that have yet to cease. The tropes of development would thereby come to be wholly entangled within and complicated by these histories, creating alibis for betterment and oppression often in the same breath, and creating as many new types of perpetrators and saviors as beneficiaries and victims. Like other

discourses of freedom, the emancipatory rhetoric of development proves to be handy for the financialization and militarization of societies alike.

The term development remains just as powerful today. It is invoked as an alibi to legitimize a complete lockdown of movement and communication in Kashmir, extrajudicial murders in Indonesia, and state-aided razing of rainforests in the Amazon. The ambivalence within its postulates allows it to infect opposing agendas in electoral contests—to wit, United States President Donald Trump's pronouncement, "We're a developing nation, too"—but also new movements for social, economic, and environmental justice. At various levels, the discourses of development have conditioned everything from speech acts to, say, the diameter of a water pipe or the composition of cement or fertilizers. The oscillation between ambivalence and high specificity impact, in turn, countervailing practices of control and freedom, conditioning the manner in which these words are understood, defined, and voiced. What development (like similar such words as modernity) *means* or could mean, for the purposes of this book, would be a futile question; it receives as many definitions as the innumerable kinds of actors who see benefit in deploying some idiom of development in their own interest.

This book sets out to examine the arrays of power, resources, technologies, networking, and knowledge that cluster around this necessarily ambiguous realm, and the manner in which architects and planners negotiated these thickets in their multiple capacities, as epistemic authorities, as technicians, as negotiators, and as commentators and prognosticators on the future of government, settlements, space, domesticity, education, health, and every other field where arguments for development were invoked.

THE BRETTON WOODS SYSTEM IN THE DEVELOPING WORLD

Toward the end of the Second World War, the dominant consensus that emerged within economic and political circles was that the world economy requires managing. The conference of economists from Allied countries that took place in the Mount Washington Hotel in Bretton Woods, New Hampshire, of July 1–22, 1944, represented an opening gambit for laying out a new, cohesive, and globally encompassing monetary system for the postwar world. The principal core of the Bretton Woods system was its effort to abolish the plural but also clannish order of the old European empires in order to establish a coordinated monetary system for a world composed of a far larger number of sovereign nation-states. Uncertainty in global markets, the argument went, deepened when states and politics acted in contradictory directions or when states' traditional fiscal-monetary fecklessness in market intervention went contrary to economic logic. These at least were the primary reasons adduced by economists in the 1940s for the Great Depression, as well as for the many such prior depressions of the previous century. The singular instrument that the Bretton Woods system focused on to battle the uncertainty of the capitalist system as ordained by the pre-war imperial regimes was the money form. In creating the new system, money, along with its haphazard and ad hoc determinations of "price," was detached from its association with the "natural" world, that is, the metallic standard, and reposed instead in a new, self-fulfilling *social* construct, a single exchange system pegged to the clout of the American dollar.

By any measure, the "hero" at Bretton Woods was the ailing John Maynard Keynes, whose *General Theory of Employment, Interest and Money*, published in 1936, expounded on the key role that the money-form, as a crucial determinant of market expectations, could

play under certain constraints in stimulating investment within an ever-looming landscape of risk. The state's strategic injection of money as an inflationary instrument within a finite range of underemployment, Keynes had argued, could have the effect of modulating wage prices and commodity prices as a way of stimulating demand, such that markets would not be subject to the *simultaneous* demand and supply crises as experienced during the Great Depression. This gambit aimed to "save capitalism from the capitalists" by curbing the worst tendencies of the market to swing in boom and bust cycles.

The institutions founded in the wake of the Bretton Woods systems had global repercussions in the norms that it stipulated for monetary convertibility between national markets. It is hard to underscore the extent to which this was based on an extraordinary international compact between its participating nations. At one fell swoop, the output of a small fruit orchard in the Himalayas, the supply of diamonds in Rhodesia, the wages of a policeman in Singapore, the cost of a highway on the outskirts of Paris, and countless such unrelated economic "transactions" across the globe became linked to each other through the mediation of the American dollar, which became the default global currency for settlements across the world's diverse market systems.

Yet this presumptive multilateralism still remained, as many noted at the time, an Anglo-American compact. The Soviet Union and its satellites stayed out of Bretton Woods, based on their very different reading of the money form and its relationship to the state. The Bretton Woods conference had also included, in the words of the Mount Washington hotel staff that served as the venue, a "gathering of Colombians, Poles, Liberians, Chinese, Ethiopians, Russians, Filipinos, Icelanders and other spectacular peoples" comprising a substantial portion of the 730 delegates present, late-colonial proxies and peripheral witnesses to a change in the armature of Empire.² Pushed to the fringe of these deliberations, representing by far the demographic majority of the planet but invited only on the say-so of their colonial masters of the time, they were little solicited for their views on the creation of a global arrangement that they correctly understood, and voiced concerns about, as radically poised to overwhelm their future.

This marginalization did not reflect their political marginalization alone: their sidelining also reflected a structural lacuna in the Keynesian economic universe and hence in the design of the Bretton Woods agreements. The *General Theory* goes to great lengths to stipulate the specific relations of wages (demand), levels of employment and output under which its arguments for monetary infusion by the state and the cost of money (inflation) hold true. Another way of putting this is to say that Keynesian tools only worked at near full-employment levels, a premise that assumes a fully industrialized society. To deploy this strategy in conditions other than full employment was, to use Keynes' famous phrase, like "pushing on a string," infusing money and technology into worlds that had little aptitude to (productively) employ it.

Evidently this begged the question of the "developing" world, defined as they were by minimal penetration by modern, mechanized industry. "Pump-priming" demand through inflation was pointedly out of place for a nonindustrial workforce with the low productivity outputs associated with non-mechanized economies, a condition that development economists promptly took to describing as "surplus," "underemployed," or "unemployed" labor. Nonetheless, the monetary norms laid down at Bretton Woods reflected the Keynesian calculus, thus subjecting the entire developing world to an institutional armature that deemed them, *de facto*, if not irrelevant, certainly "defective" in terms of the theory driving this

arrangement. This institutional arrangement thus implicitly recreated a hierarchy where industrial (formerly colonial) powers would retain primacy over countries enmeshed in primary production and resource extraction. If the developing world was, by definition, that in which Keynesian monetary theory did not hold, then “development economics” and “development planning” would appear in the postwar period as fields driven precisely by the desire to bridge the epistemological gap between Keynesian assumptions and the large tracts of the planet where these assumptions did not hold.

The effect of the money form on exchanges in every other social sphere has long been the object of study, from some of the earliest theological texts to a slew of modern scholarship in almost every discipline, and the conceivers of the Bretton Woods arrangement understood well that their impact would go far beyond monetary-fiscal decisions alone. In addition to the International Monetary Fund and the World Bank, the two institutions designated to shore up global financial markets, the Bretton Woods Organizations also comprised, under the umbrella of the United Nations and outside it, multi-lateral arrangements and charters dedicated to health, education, culture, labor rights, the environment, housing, quality standards, scientific research and cooperation, statistics, to name some of the prominent areas. Biopolitics and technique took precedence in realms where previously *laissez faire* approaches and conventional politics had reigned before, under the premise that “disinterested” agreements could be reached sooner and easier amongst experts arguing about methodology than in the internecine, squabbling play of interests that comprised most societies and dispensations of power. Many of the authors in this volume interrogate the work done by these Bretton Woods Organizations to show how the combination of biopolitics and technique have been central to organizing the post-Bretton Woods built environments.

A corollary to the Bretton Woods international arrangements of a single exchange system pegged to the dollar was the primacy accorded to *sovereign* nation-states as the principal agency tasked with guiding this new international compact. With Washington holding the fiscal reins, it nonetheless devolved on nation-states to negotiate the fraught predicaments of socialization produced by this monetary system. In its own way, the emphasis placed by the Bretton Woods system on the centrality and importance of the state cannot be discounted here, tantamount to something like apostasy within the economic liberal privileging of the autonomy of markets that it was otherwise designed to propagate. The hobgoblin that haunted the proceedings of the Mount Washington Hotel conference and analyses of the worldwide depression that preceded it was the Soviet *Gosplan*. In the 1920s, the forced modernization undertaken by the Soviet New Economic Policy had entailed the active alteration, from on high, of the terms of trade between agriculture and industry, a process involving the state’s intervention in determining prices all along the chain of commodities. While Keynes was none too taken with the ultimate viability of the Soviet system, the reasons behind the central role accorded to the state in the *General Theory* was as much political as economic, in that its theories were intended to defend political liberalism against the growing attractions of communism given the widespread despair of the Great Depression. Still, the *General Theory* restricted the state’s role solely to monetary manipulation while defending a circumscribed chaos or “animal spirits” in capitalist markets as essential to their vitality. Although there was a world of difference between the so-called “developing” economies and the Keynesian model, the autonomy accorded within the Bretton Woods system to what Alain Badiou has termed the “metapolitical state”—the subsumption of all politics to the state as capitalist governor—was essential to the premise of development.³

Competing ideas as to the role of the state defined almost any polity or country within the postcolonial theatres of development, and certainly these differences became salient in geopolitical terms as well in the conception of the so-called three Worlds—First, Second, and Third—that charted or sought to chart differing ideological worldviews, or at least differing spheres of influence.⁴ The state’s role as primary caretaker of the economy, rather than the market, became an essential feature of the developing world, in itself marking a significant departure from prewar colonial regimes where an emphasis on *laissez faire* economics and low public spending represented the obverse coin of economic extraction and captive markets.

Correspondingly, in the Bretton Woods system, shoring up states’ sovereignty represented the flipside of the protean technology that lay at its base: debt. To secure debt, essential in building and stabilizing “proper” capitalization of markets, it also became necessary to strengthen the monetary wherewithal of states. In this regard, the ideological conflicts of the Third World emerged, as in the First and Second, over the degree to which this interventional power in monetary affairs also extended to fiscal prerogatives. Further differences emerged around questions of the deficit. Newly sovereign countries often saw large deficits as essential to achieving modernization at a faster pace; conversely, international financial lending agencies were wary, as today, of the inflationary implications of enlarged deficits on the state’s ability to honor its debts.

These differences, however, did not polarize the First and Third Worlds. If these two-stroke engines—sovereign debt and the management of deficits in fiscal initiative—aimed to heighten governmental prerogative in both developed and developing worlds, they also introduced a measure of homogeneity in the ways in which governments conceived of their subjects as economic entities, in both North and South. As the Pakistani economist Mahbub ul Haq introduced his study of economic planning, “All economic plans read alike. If one picks up the plans of India, Pakistan, Ghana, Egypt, Nepal or Ceylon, at random, what is surprising is not their apparent differences but their basic similarity.”⁵ This was mirrored across the developed world, where economists routinely pointed to the structural barriers posed by low productivity, surplus labor, and under-capitalization to returns on investment.

This double bind, of conceptualizing larger and larger projects to justify the contraction of larger and larger loans on one hand and of greater oversight over states by extra-statal lenders in defining the nature of projects on the other, made up the principal scaffold of what we could call “development time”: a temporal extension between projects that would continue indefinitely in the service of so-called national development “goals.” The “development decades” of the 1950s–1970s—on par with *les trentes glorieuses* in fully-industrialized countries—saw a profusion of state-initiated megaprojects launched throughout the world. A new form of instrument, the sovereign-backed loan, formed the lubricant for a profusion of technologies that flowed around the world, from condoms, civics lessons, and engineered rice to pozzolans, submachine guns, and antibiotics.⁶

THE NEW (DIS)BALANCE

In the early postwar era, development economics within the Bretton Woods institutions was initially characterized by a fixation on “balanced” growth. Proponents of balanced growth argued that in countries without “mature” capitalist market sectors and institutions, the path to economic growth was only possible by simultaneous investment on multiple fronts,

from industrial and agricultural production to health, education, and social services. These investments required a carefully orchestrated combination of infrastructural development, tax incentives, urban and regional planning projects, government subsidies, and centralized administrative control. An independent and self-supporting system would emerge only when every aspect of capitalist production was ticking in sync with all the others. Established on a significant scale, such a system would independently attract further investment and would establish mutually supporting and self-aggregating market activity. In the “Big Push” model advanced by the Harvard economist Paul Rosenstein-Rodan, development planning was necessary to establish “economies of scale,” the maximum quantity up to which the cost of producing a commodity could be reduced by producing it in greater quantities. The problem of development, so it was assumed, was only one of coordination, of setting the system in place, of turning gears and wheels in sync until the whole mechanism started to tick on its own accord, picking up speed and adding more parts to its movements.⁷

In order to reach this tipping point, what the MIT economist Walt Rostow, in line with the “modernization” theory brewing in American academic circles, called “take-off,” large infusions of debt would necessarily capitalize on massive changes precipitating in undercapitalized countries, such that developing countries could rush past, at a fell swoop, the centuries of internecine struggle between tradition and modernity as witnessed in the capitalist countries of Europe.⁸ In attempts to implement modernization theory, experts went beyond economic factors to identify elements within “tradition” that necessarily needed to be dismantled to arrive at the modern. Political elites within developing countries also essentially subscribed to these views, committing states to undertake massive efforts at socialization, often posed as the realization of the utopic premises of anti-colonial movements. Each free contraceptive pill, subsidized textbook, new strain of long-grained rice, liter of clean water bore within itself a little morsel of expanded state debt. In the event, as one “development handbook” put it:

It has been said that the nation state has become too small for the big things, and too big for the small things. To the watchman’s duty [i.e. the liberal model of non-intervention in economic affairs] of maintaining law and order have been added such responsibilities as maintaining price stability, ensuring high levels of employment and high growth rates; devising a population policy, regional policy, industrial policy and agricultural policy; responsibility for redistributing incomes and alleviating poverty through social services; protection of the environment, physical and human resources, and energy policy; as well as numerous others.⁹

The state thus came to embody two otherwise unrelated worlds or realms of time: the servicing of the debt on the one hand and the socialization of its “people” on the other. The former referred to a principle of contractual obligation, determined by an immutable and undifferentiable temporal order: the durational time of the debt or bond (the 1-year, 5-year, 10-year, 30-year loan). The latter referred to negotiation, an irreconcilable field of social contracts and types of contracts written and unwritten in multiple temporal worlds, which the state must force or coerce into a manageable “plurality” or communitarian ideal of “society” in order to survive.

In the financially bolstered—from elsewhere as it were—states of the postwar period, this juxtaposition of two temporal fields—of the scripted time of debt management on the one hand and the unscripted predicaments of socialization on the other—will find renewed commitment to theories of systems. Systems theory was first given shape in the knowledge

frameworks and institutional strife of the eighteenth-century European “Enlightenment.” Then too, it had comprised a similar confrontation between an order of truth and legitimacy manifested in a singular, monotheistic godhead, increasingly challenged by the expansion of markets and finance and the corresponding mercantilist-physiocratic emphasis on a “natural history” that reverted phenomenality to a field described by a dynamics of use and exchange. It is not coincidental that Noam Chomsky would look to the Port-Royal grammarians in elucidating his Cartesian linguistics (1966) or that Albert O. Hirschman would revisit eighteenth-century assertions on behavior as the basis for the creation of modern economics, as would be the case with Alexandre Koyré’s arguments on closed and infinite universes, to name a few.¹⁰ Michel Foucault’s path-breaking *Les mots et les choses* (1966) implicitly mines this perceived continuum between the knowledge order of the postwar state and the knowledge order accompanying the inception of the modern, capitalist state.¹¹

SYSTEMS AND EXPERTISE

In the postwar era, systems theories infused knowledge orders and institutional claims to legitimacy equally in First, Second, and Third Worlds. We could argue that the heterodoxy that systems theories sought to embody lent them the fungibility to apply to every context, whether characterized by adherents of liberal or socialist ideology. The ascendancy of systems theory across these ideological divides spoke particularly to its claims of bringing heterogeneous processes together and referencing conditions of complexity. In the process, systems theories emerged as overarching constructs that allowed mutually incoherent inputs and insights from multiple disciplines. Within this new theology, insights from psychoanalytic theories on Oedipal fixations, anthropologists’ studies on fetishes, structural linguistics, thermodynamics in physics, and biological studies in genetics could be handily traded in for each other in the interest of novel, promising epistemological claims that portended to both study and orchestrate the processes of change. The mid-twentieth-century stance was thus markedly different from the “spirit of system” theories in the eighteenth century, which had all ultimately folded back into arguments for fixity in the universe.¹² Positing different system dynamics as partial wholes and parts, postwar theorists emphasized the incomplete understanding of phenomena as a *precondition* for the importance and truth claims of their work: one could only rely on partial knowledge to devise systems that were effectively a combination of different kinds of parts. Incompletion thus turned systems into arguments of scale. A system was a system only insofar as its parts were readable in the context of larger arrays or series of such parts and wholes: ultimately, systems theories were theories of relations. The economist Paul Krugman speaks of systems as an essential prerequisite to model any large-scale action, given any actor within the system would only have partial knowledge of its components:

[Any] kind of model of a complex system . . . amounts to mak[ing] a set of clearly untrue simplifications to get the system down to something that you can handle; those simplifications are dictated partly by guesses about what is important, partly by the modeling techniques available. And the end result, if the model is a good one, it is an improved insight why the vastly more complex real system behaves the way it does.¹³

It is not hard to imagine the fascination that governmental bodies and firms had for this protean theory of theories that explicitly referred to “practice” as its goal (“something you can handle”), one that professed a liberalism premised on “rights” on the one hand and a

conservative focus on productivity on the other. Systems offered a legitimacy that authority of any kind intrinsically craves: in portraying all decisions as premeditated, unifying the state's past and future actions as if cogently arrived at in a uniform series, it covered over the disordered, anarchic political and market surroundings. The claim to epistemic coherence, an affectation at best, would provide a key alibi for the expansion in the scale and conceptualization of projects, in essence putting in play a self-fulfilling process: a theory of system that leads to larger and larger systems being employed in the world.

Nowhere would this be more true than in the theaters of development. Hugh Keenleyside, the first director-general of the United Nations Technical Assistance Administration (UNTAA), described the agency as contributing to a

great crusade for human progress [driven by] high purposes . . . based upon the assumption that it is possible and practical to transfer knowledge and techniques from one area to another for the purpose of advancing the economic and social development of the people of the world.¹⁴

In this systemic embrace, both metaphorical and literal, the transferability of “knowledge and techniques” would become the condition for the profusion of projects and would spell the heyday of the professional “expert.”

If you were a teacher, doctor, social worker, film or television technician, statistician, nurse, agronomist, banker, engineer, architect, planner, economist, and so on, in this period, new state outlays and expanded ministerial and bureaucratic prerogatives promised you a secure career and benefits that were compounded with the cultural capital that came with your putatively “noble” professional contributions to nation-building. There would be more of you than ever before in the history of the planet. Should you have had the luck, from wealth or connection, to have studied in the Western metropole, chances were high that you would be precipitously hoisted to the apex of this or that governmental body or department. The youthful sojourn to the metropole established your immediate kinship with the developing world's political elite, most of whom had cut their political teeth on educational campuses of the Western world, reading Karl Marx, John Stuart Mill, Leon Trotsky, Harold Laski, John Dewey, Henri de Saint-Simon, John Ruskin, Auguste Comte, and Abraham Lincoln. Chances were equally high that an enormous quantity of projects would be laid on your table. When Habib Rahman arrived back in Calcutta in 1946 after having obtained two degrees at MIT and interning with Walter Gropius and Konrad Wachsmann in Cambridge, MA, he was immediately appointed Senior Architect of the West Bengal Public Works Department, where he completed nearly eighty projects in Bengal by 1953; upon his move to Delhi, he undertook another 150. Gropius's other Indian acolyte, Achyut Kanvinde, similarly completed close to a thousand buildings over his career, most of these being public commissions.

Tethered by the Bretton Woods system, expanded state fiscal prerogatives rained veritable manna on a roving global diaspora of experts—*soi-disant* and otherwise—and consultants, peddling a cornucopia of conceptual hi-jinks and epistemic wares. An example is the firm of Constantinos A. Doxiadis, whose suite of services in planning, design, and engineering garnered projects in 40 different countries, with an office on every continent. More corporate entities—such as Arup, Gensler, and SOM—were not far behind, all of whom affected some kind of theory of system while peddling their own proposals. Other “academic” actors, less-entangled in governmental domains but no less voluble in terms of their publishing and mediatic footprints, found in the developing world bracing opportunities for new civilizing

capers: Maxwell Fry and Jane Drew, Candilis, Josic, and Woods (CJW), Otto Koenigsberger, Charles Abrams, Jaqueline Tyrwhitt, Buckminster Fuller, Louis Kahn, and a sizeable legion of deracinated Bauhäuslers.

These forays closely shadowed neocolonial turf wars in different parts of the planet: British consultants capitalized on the abiding networks of the erstwhile British Empire, the French consultants in the Francophone globe, and American and Soviet missions faced off in diplomatic cocktail parties in tropical heat, angling for the next hydroelectric dam or industrial encampment. Schools, hospitals, housing, universities, laboratories, industrial plants, capitol complexes, transit and defense installations, commercial and bureaucratic offices, new settlements, infrastructure and city plans, and new structures and new spatial imaginaries were wrought in “modern” combinations of grids and curves. These projects also transformed the nature of material circulation and extraction, creating new supply chains of steel, cement, sand, plastic, and other building materials across the world.

The scale of operations, however, that architects were called on to answer should not be understood in itself as a sign of power for the profession. In the new statist domain, the terms of success of a profession could also be described as producing the terms of its ultimate weakness or subservience. Each claim on the instrumentality of buildings and spatial configurations to secure public goods or biopolitical benefits (as in the case of housing) involved fending off competing claims by other disciplines, professionals, suppliers, or consultants, all angling for control of the same packets of resources. Who should define the form of a health clinic, doctors, or architects? Should scarce resources in education be spent on better buildings, more textbooks, or better salaries for teachers? Who should weigh in on highway construction and new railway alignments—architect-planners, landed interests, engineers, or bankers? Is a house primarily a financial allotment or a roof and walls (or alternatively, first a roof, the initial investment, and then the walls)? Who should have primacy in devising the shape of bridges, large buildings, traffic patterns, etc.: engineers or architects? As these contests over expertise intensified, architects and planners found themselves stretched to make knowledge claims in fields as diverse as the “sectors” in which buildings or planning were required, which is to say everything. The expansion of domain control, in other words, may well have augured the attenuation or even evacuation of domain: to wit, Doxiadis’s Ekistics, a “science” devoid of content if there ever was one.

What rendered these expanded state domains something of a fool’s challenge was the impossibility of defining an even broker who could adjudicate sagely and in real time between these competing claims of expertise and necessity. Such had been the gist of Friedrich A. von Hayek’s early excoriation of the figure of the “Central Planner” in his famed formulation of the “knowledge problem.”¹⁵ On many levels, the Central Planner was always something of a bogeyman, conjured up by opponents of *dirigisme* rather than an actual office or person possessed of any such executive powers. Indeed, the primary flaw of the Hayekian knowledge problem may have lain not in the “external” problem of marrying data to phenomena but in the *internal* psychodynamics of expert committees themselves. Even the most rudimentary scrutiny of the institutions and bureaucracies devoted to development work behind the Pecksniffian claims to systemic action revealed a world of competing clans, jealousies, and intellectual loyalties, along with confusions as to mandate, insufficient budgets, and inevitable wanting for competent personnel. This is a narrative that the accusations of neocolonial interventionism, routinely leveled at foreign experts by domestic political actors across the developing world, have inevitably missed: the inherent dysfunction and general

incompetence within aid organizations themselves. First, there was the problem of recruitment. Since the UN's permanent staff was small, outside experts had to be solicited for each mission, who could only be paid through (usually measly) honorariums. This resulted in a constant struggle to obtain competent staff who had to leave their well-paid positions and family obligations and sally forth on development "missions" to face dysentery, mediocre wages, sketchy lodgings, and obdurate administrations. In this light, post hoc reflections by transient experts such as the housing expert Charles Abrams sent on UN development missions throughout the 1950s and 1960s make for both somber and comical reading:

American experts were especially hard to enlist partly because of the small fees and partly because every candidate was subject to a rigorous search by the Federal Bureau of Investigation (particularly, in the context of 1950s McCarthyism) when they learned that investigators would visit their former landladies, employers, and disgruntled employees, scour their pasts, and compile all the hearsay into a file—all for a two- or three-month visit entailing a fee of \$50 a day or less.¹⁶

Second, as Abrams further added, there was the problem of information management. Studies compiled by UN experts represented new literature on little-studied topics in the developing world but were not published and were interred in the "secret archives of the UN's basement."¹⁷ Third, the focus on multilateral agreements meant that one could not encourage private enterprise for fear of inviting "Russian criticism, while any recommendations for socialization may alarm the capitalist nations."¹⁸ The result was a "neutral" language, in Abrams's view, shorn of any confrontation of realities and therefore of no real use.

It was not just the UN that appeared at the crossroad of irreconcilable agendas; the same could be said of US aid agencies themselves. Abrams's account of the relationships between the Inter-American Development Bank (IDB), US Agency for International Development (USAID), and the International Cooperation Administration (ICA) provides us yet another snapshot of this imperceptible chaos transpiring behind bureaucratic screens:

There was no identifiable policy concerning the relations between [US]AID and IDB. Both were operating in the same areas and in the same countries. In the absence of an effective liaison between [them], applications for loans were made to both, and neither knew much about what the other was doing. Both were in competition. . . . There was now no clear division of authority whatever, and both agencies made separate deals with the same Latin-American officials and in the same countries—a kind of interagency *laissez faire*. . . . Policies roved, crisscrossed, and intermingled. . . . For even had there been any constructive objectives written for the [US]AID program, there were no trained people to carry them out, and there was little data on which judgments were made.¹⁹

Given these dire descriptions, it can be argued that a further function of systems theories was to furnish governments, development agencies, experts and hacks alike with the patina of organization, the pretense that all was, and would be, well in the happy marriage of knowledge to power. Systems theory could be used to project coordination where in fact nothing was coordinated. It could also project newness where little had in fact changed in the functioning and interrelationships of states, capital, and their constitutive factions.

Indeed, some development experts even wised up to this fact, arguing that whether development occurred by chance or (policy) premeditation was in fact of little importance.

This was the brunt of Albert O. Hirschman's theory of "forward-backward linkages," who argued that the planning sequences that planners obsessed about—first building the highways, then setting up a car industry—were in effect a misspent use of intellectual energy.²⁰ In Hirschman's view, development did not follow the kind of linear modelling as propounded in the "Big Push" and take-off theories, or in the many Five Year Plans arrived at by different countries. For him, it was essentially a conglomerate enterprise, involving many changing actors, institutions, and interests, and leading to what in conventional economic terms would be called disequilibria and alternations. According to this view, development inevitably generated failures, setbacks, and conflicts. Capital and education—factors which conventional economics defined as prerequisites for development—did not preclude these tensions and conflicts, nor the unpredictability they entailed. No matter how well planned a project, it generated countervailing forces that would conspire to undermine it. In this environment, a development agency was to focus on allocating resources in a few key sectors of the economy without providing any "complementary" investments. The imbalances produced through such investment would produce political pressures for action on other fronts, resulting in the reallocation of resources over time. This shift would then create another imbalance, and consequently a new set of political demands, thereby repeating the cycle. For Hirschman, these forces were in fact critical lessons for people, teaching them to cope with currents of change by turning disappointments into learning experiences. Whenever a development project "failed" in conventional terms, it in fact generated unforeseen new opportunities. One thus needed to adopt a "learning-based" view of development. In the long run, investment firms would work this out in the "fast fail" logics of venture capital.

For Hirschman, it mattered little which part of a system was introduced first, over time the rest of the system would in any case catch up. What guaranteed that each project would indeed be carried forward to its proper *telos*, that the world would not come to be littered—as indeed it would—with the flotsam of countless half-realized projects, of holes dug in one place and pipes delivered somewhere else, of incomplete fragments of infrastructure and installations falling into ruin simply because at a given time a patron here and a patron there was able to secure a piece of funding of which he also got a piece? Here Hirschman's thinking expressly tips over into soteriology: in the end, he argued, development thinking had to be tethered by a "bias for hope." Perhaps this hope relied in the end on the agnosticism that Keynes had advocated so clearly on the selection of projects in the famous section in the General Theory on "digging holes." It mattered little, Keynes had argued, what kind of projects had been conceived and executed (or not) in a given quarter, whether people were simply paid money to dig holes and fill them up. Far more significant was the fact that money would be paid and eventually spent, beefing up demand for the wheels of supply to start turning again.²¹

It also helped that the more projects failed, the larger demand there was for economists. Indeed, if one form of expertise rose above this morass of discordant interests and barely concealed, conflicting sets of eyes on the main chance, this was the economist, a profession given signally new importance after the Second World War and whose cadres would undergo tremendous expansion in both their numbers and the prerogatives arrogated to them. The principal reason for this precipitous uptick in the economists' powers were the mechanisms of global debt itself, more institutionally coordinated than ever before and given sanction, at least for the time being, by multilateral agreements to which states were beholden to like never before. Economics thus became the *lingua franca* in which all manner of incompatible

claims had to be brought to bear on the new institutional order. Stationed close to fiscal spigots and able to set the terms for project procurements, economists acquired the upper hand in determining what comprised or did not comprise a legitimate claim to both knowledge and practice, in fields as diverse as housing to animal husbandry to budgets for art. As Abrams put it, one of the principal challenges of housing in the developing world was precisely that “economics still ruled the aid program.”²²

Responding to this epistemic hierarchy, the language of architects and planners in this period showed a distinct shift toward making economic claims in their efforts to establish professional legitimacy. This was not new, as we might recall the writing of Frederick Law Olmstead on what we would today call “value capture” from urban improvements, Karel Teige and Ludwig Hilberseimer’s on housing, or Frank Lloyd Wright, who in his Broadacre City propositions composed large tracts of economic reflection to a degree unthinkable today. But in these earlier propositions, economics provided a tool to model their idealism; the idiosyncrasy of their economics mirrored the idiosyncrasy of their forms. By contrast, the economics professed by architects of the 1950s and 1960s can be compared to the post-colonial “mimic men” of V. S. Naipaul’s memorable novel, imitating the language of epistemic dominance to get by in global development circuits. Architects, amongst others, *had to learn* to converse in the language of economists for their profession to qualify as legitimate knowledge.

ARCHITECTURE IN DEVELOPMENT

As an epistemological undertaking, development theory emerged from a hiatus or mismatch between the investment criteria in mainstream economic theory oriented toward fully industrialized contexts and the structurally different challenges faced by countries with the bulk of their population immersed in the unmodern realm. In that light, a debate flourished as to whether development economics in fact required a different economics with new presumptions and differing points of data about economic behavior or whether it should be seen as a subfield within the mainstream discipline wherein the general axioms still held but required qualification in terms of specific applications. This debate reflected and perhaps defined similar contestations with respect to other fields as well: tropical medicine, national literatures and arts, agriculture and food security, and so on. Something similar can be observed in architecture between the lineaments of the “modern” vis-à-vis the new “regional” claims that begin to be advanced in the postwar period, with respect to technologies, forms, symbolisms, plan organizations, housing arrangements, and climate responsiveness. Many of the essays in this volume speak to this tension between international and regional attributes, while some direct attention to tensions around the fiscal and formal definition of particular typologies. As they all make clear, these tensions were enunciated not just by nationalist ideologues in developing countries but by the roving circuit of firms and consultants as well, proclaiming a certain expertise specifically applicable to the politically and economically fraught conditions they found in the various development contexts.

By any measure, the challenges faced by the so-called “developing nations” were immense. In Asia and Africa, most of the new nations were defined by geographical boundaries drawn on sand by their departing colonial masters. The waves of factional conflict and war—between, within, and across states—that ensued undermined mass-party formations that

were still nascent, opening up paths to autocracy on the one hand and counter-formations in the shape of ethnic or factional strongholds on the other. In these contexts, development policies, such as they were, reflected as much trade-offs in power as the creation of new patronage-clientele networks. The chimera of the state as a uniform space—in which inputs and outputs could be rationally assessed or disbursed through “secular” calculations—remained just that, a daydream of its technocratic elite and a humbug of the subdisciplines that came to be termed development this or that. The epistemological outlines laid out in development textbooks thus present us today not with an account of “what happened” in development but with a historical archive of a powerful mode of speculation whose distortionary effects have still not been fully measured.²³ In terms of the chapters in this volume, some of the principal preoccupations of this archive are worth highlighting, given the effects that these conceptions would have on production in other sectors such as architecture and planning.

In theoretical terms, the primary challenge of developing countries, as outlined in the broad literature, were the obstructions that these societies posed toward their transition to a fully industrialized future: the low productivity endemic to feudal-agrarian societies and the “sectoral imbalances” produced therein between manufacturing and agriculture, mistranslated into imbalances between urban and rural or between regions; skills and knowledge deficits hampering greater technological penetration; the challenge to investments and new technologies in a demand-dampening “surplus labor” environment; and the “selection” of which technologies would be most appropriate to introduce in a given situation. Introducing new ideas, new foods, new machines, new clothes, new music, new architecture, even new freedoms in societies little used to them did not just pose questions of resistance forged by habit but also in terms of choices and priorities. Did the expansion of textile capacity make sense in a society where people were happy to live with two sets of clothing but would prefer to spend conspicuously on watches instead? If new wheat technologies offered the most significant returns to investment in terms of added output, would this fly in a rice-eating region? If cement concrete was the cheapest form of technology that could be applied to solve housing problems, did this make sense in context where a country would lose significant foreign reserves, needed for other purchases, in order to import pozzolanic lime? Choices mattered, and they mattered much more in countries weighed down by scarcity, where options for mistakes and misfiring could prove to be both socially and politically catastrophic, as indeed became the case across the developing world.

Against this landscape of choices and priorities, amongst the identification of needs, techniques, technicians, budgetary constraints, and debt contraction and servicing, it would be hard to argue that for governments in developing countries, architecture mattered more than, say, antibiotics, contraception, hydro-electric dams, fresh water, energy, roads, etc. Yet architecture played a particular role in giving form to many of these investments: large infusions of capital into multiple sectors of culture and economy inevitably implied an upsurge of building activity. In every theater of development, new structures were required to house interventions in health, education, agriculture, media, the arts, and housing, not to rule out the structures needed to house the expanded functions of governments themselves: the new parliaments, assemblies, courts, police and military installations, and thousands of miles of double-loaded corridors laid out across the planet to organize the deepening role of government in almost every social interaction. In vying for these commissions, architects spoke to the uses and appositeness of architecture to each of these realms, employing

rhetoric that they hoped would intersect with whatever sensibility or agenda they attributed to their prospective patrons, whether this spoke to questions of symbolic form or ornament, climatic response, organizational logic, use of materials, budgetary use, phasing, the effects of physical form on behavior, or the metaphysical predicaments of aesthetics and morality. If on the one hand this rhetoric may have been voiced across the gamut of convictions, from what game theorists call “cheap talk” to the most sincerely held moral beliefs or “good intentions,” then on the other these pitches were also voiced through myriad policy and academic tracts, in syllabi and curricula, as well as academic podiums and even software programs written to express dynamics of control and freedom.

Why is architecture *there*, at all? Why was it necessary, in these postwar decades, to devise architectures that appeared to emblemize the discourses of development? In a more disciplinary framework, can we say that there was an architecture *of* development, in the manner that we say “socialist monument” or “modern housing” (categories that in any case are not absent in developmental contexts)? Or can we only talk of architecture *in* development, in the service of or as an accompaniment to this or that feature of the history of development?

The essays in this book intuitively veer toward this last, “weak” interpretation, which is to say that they place architecture as an important feature among a range of development artefacts and the “artefactual politics” of development.²⁴ As this collection of essays demonstrates, there is no one mode or articulation of architecture that defines its specific utility for developmental tasks. This becomes particularly salient in these chapters, which read development as an inherently *multilateral* and discordant discourse. Following Abrams’s insight mentioned earlier, the chapters see these architectural interventions as gambits or even gambles, moves in a fundamentally uncertain field of discrepant ideologies, mercurial budgetary horizons, difficulties of patronage, abrupt electoral and policy reversals, coups within governments, and bureaucracies, not least within the international development agencies themselves. This overarching sensibility leads many of these writers to foreground new types of artefacts or typologies seldom attended to in mainstream architectural discourse: cattle sheds, grain silos, farms, villages, aboriginal settlement patterns, and so on. These artefacts are all intersectional, to borrow from feminist discourse, in the sense that they are created in the overlaps between the informal exigencies of biopolitics and the formal predicaments of government. Additionally, these types inherently highlight the intersections of the “unmodern” within the modern, intersections that ring true in developed contexts as well but which appear all the more pressing in the context of developing countries.

This book cannot be considered exhaustive, nor as a “field guide” in the traditional sense to the topic of architecture in development. Instead, it offers theoretical reflections “from the field,” based on extensive archival research, to a growing field of research. This emerging field marks a turn to postwar globality as distinguished from colonial and post-colonial modernity. Diverging from the tendencies of architectural historiography to particularly privilege modernist aesthetics in national formation, the essays here represent a growing body of research that instead highlights the political and economic aspects that dominated discourses of development, dimensions that have been previously ignored in scholarship. The inception of this book dates back to a panel titled *Systems and the South* organized at the 2012 Society of Architectural Historians Annual Conference in Detroit, where some of the editors first gathered to conceptualize a larger research project involving inputs from scholars working on this topic globally. Subsequently, the project came under the aegis of the Aggregate Architectural History Collaborative, under whose

auspices the editors sent out an open request for papers. The papers in this volume represent work of scholars working on countries as diverse as Israel, Ghana, Greece, Belgium, France, India, Mexico, the United States, Venezuela, the Philippines, South Korea, Sierra Leone, Singapore, Turkey, Cyprus, Iraq, Zambia, and Canada. The selection reflects the breadth and scope of submissions we received, which conspicuously lacked scholars working on socialist models of development from the Soviet Bloc and the Nonaligned Movement, although strong work is emerging on those regions that look at comparable phenomena.²⁵ To some extent, therefore, the findings presented in this book must be seen as restricted to the Bretton Woods universe. The relations between the Bretton Woods system and the Soviet world are complex, not just because the roles attributed to money were different in the two systems—the ruble resembled more a scrip than true currency—but also because certain countries such as Yugoslavia were part of both while others were not. Inevitably these differences created divergences in the manner in which projects, including buildings and urban planning, were conceptualized and executed, consideration of which will have to await some future occasion.

This publication represents the culmination of multiple rounds of peer-review workshops and editing. Amongst the essays, certain themes appeared salient. The chapters are consequently organized around these themes as outlined here, although as will become apparent to the reader, many also overlap in their concerns beyond these groupings. The first grouping pertains to *developmental time*. The chapters by Arindam Dutta and Ijlal Muzaffar speak to this synthetic construct, which is inexorably composed of metaphysical claims that find themselves confronting aporias of various kinds. Focusing on the Le Mirail project in Toulouse and the Ford Foundation's Calcutta Plan, Dutta discusses the logic of phased projects and their morphologies as a response to the phase-bound manner in which budgets were allocated. Muzaffar reflects on Abrams's observations about self-help housing in Ghana, where the housing expert encountered the work of a missionary, to unveil the faith underlying financial thinking. Muzaffar proposes that via its operation as metaphysics, systems offered experts a guarantee against failure. For Dutta and Muzaffar "debt" and the "body"—the sites of technique and biopolitics—present the locus of development discourse's metaphysical claims, through whose management it has to instantiate and establish itself. Discussing the constitutive crises of developmental time, their essays argue that it is in these crises, rather than in their reconciliation, that the trajectories of development history are shaped.

The next section looks at the fates and predicaments of *Expertise*, which includes chapters by Ayala Levin, Nikki Moore, Diana Martinez, and a collaborative work by Sebastiaan Loosen, Viviana d'Auria and Hilde Heynen. Levin's chapter might be said to follow up on Dutta's and Muzaffar's chapters by looking at how incompleteness was incorporated into the planning process itself, as a *modus operandi* that precluded failure. Her chapter highlights the dwindling scope of development planning for its touted international exponents by focusing on the agenda of so-called action planning. First touted by the development practitioner Otto Koenigsberger, this concept can be seen as a last-ditch attempt to corral the growing chorus within the planning community itself on the significance of "implementation" as scores of the well-laid master plans of the 1950s and early 1960s beached themselves on the shoals of the economic and political vicissitudes that we highlighted earlier. The shift in the planner's emphasis on process rather than expert foresight, Levin argues, also augured a deflation of expectations from the planning function itself. If the plan as an originating document was

essentially to be seen as a *non sequitur*, and if implementation were to be reduced simply to historical vicissitude, then Koenigsberger's recourse inadvertently laid out a recipe for the eventual obliteration of the planner's epistemic authority, becoming more and more the business entrepreneur he wished to engage, as would indeed be the case in the ensuing decades.

Moore and Martinez both look at the architecture of training campuses for perhaps the most significant cultural heroes of development discourse: the agronomists. Moore's analysis of the *Escuela Nacional de Agricultura* (the National School of Agriculture) in Texcoco, Mexico, and Martinez's study of the International Rice Research Institute (IRRI) in the Philippines look at the two research poles in Latin America and Asia created by the Rockefeller Foundation to engineer high-yield varieties of rice, seen as essential to solving the world's catastrophic levels of hunger. Both essays foreground the political aegis of the state in this technocratic drive and the attendant disputes over knowledge and technology, given developing countries' interests in maintaining research and food sovereignty, the public and private control of food systems, and the economic security of farmers in capital-intensive grain production. Moore looks at the attempts by members of the National School to locate their work in the image of the land reform struggles led by agronomists associated with Emiliano Zapata, and the eventual success of the Rockefellers in subsuming that goal in the name of higher productivity and technical superiority. Martinez charts a similar story of failure, albeit in this case, the shift in emphasis in Philippine goals of development, from food security, manifested in rice research, to export-oriented industries centered around another crop, the coconut. Both Moore and Martinez look carefully at building articulation, layout, and orientation to reveal differentiations in micro-dispersations of knowledge and power.

Loosen, d'Auria, and Heynen's chapter turns to the academic ramifications of Habitat: The United Nations Conference on Human Settlements, held in Vancouver, Canada, in 1976. It is important to note that 1971, the year of the "Nixon shock," represented a bellwether year for development discourse. Nixon's removal of the dollar's convertibility to gold was signally directed at the United States' international debtors, signaling that American debt would be priced in international markets rather than by fiat. The cancellation of fixed exchange rates among international currencies put an end to the viability of long-term planning horizons, eventually diminishing the influence of international development agencies such as the UNTAA and auguring the growth of private consulting firms as states perforce began to emphasize privatized inputs into governmental work. New educational centers addressed this growing privatized development market. Loosen, d'Auria, and Heynen discuss how the establishment on the discourse of "settlements" in the UN conference manifested itself in the Post-Graduate Centre on Human Settlements at the Katholieke Universiteit Leuven, Belgium, one outpost in a network of institutions catering to development studies for architects and planners. Other prominent nodes of this circuit included the Otto Koenigsberger-founded Development Planning Unit in London and the Bouwcentrum in Rotterdam, with some of the key actors—such as John F. C. Turner—also circulating through the Massachusetts Institute of Technology and the University of California, Berkeley. The focus on education and training, particularly in Western graduate programs aimed at Third World students, subsisted in a direct or positivist correspondence between studies of social behavior and studies of form. The emphasis on positive categories, such as the "urban poor" or "the city," the authors suggest, can be seen as foregrounding modernism of a kind that, lodged in fieldwork, was inevitably vulnerable to empirical questioning, and eventually the critiques of positivism such as that of Aldo Rossi.

The third group of chapters pertains to questions of *bureaucratic organization*. This group includes essays by Ginger Nolan, Albert José-Antonio López, and Felicity D. Scott. Nolan's chapter on Christopher Alexander speaks to the technocratic constructions of putative agency formalized on behalf of sundry unmodern subjects, for whom the architect or technical expert poses himself as knowledge facilitator, self-proclaimed advocate, and defender against bureaucracy. Analyzing Alexander's attempts to centralize "native"—or nonprofessional—agency in processes of design, Nolan argues that in his responses, architecture becomes the recourse to erase problems that are not architectural in nature. Tradition is here stylized and affirmed in terms of a modernity that operates by deletion. López's chapter on the (brief) importance gained by architectural and planning discourse at the center of Mexican government and administration in the 1940s and 1950s speaks to a similar logic of deletion that appears at the heart of systems thinking, an erasure of contingency that appears at the very moment of a system's claim to accommodate it. López locates the Alemán government's appeal to the concept of *planificación* as a particular faction's attempt to place a universal architectonic of government and bureaucracy that would presumably abolish faction, and by consequence, disagreement in the sense that a claim to systems would also claim to imbibe all disagreements within itself, as "inputs" for the betterment of the system. López traces this claim in the midst of other claims and counterclaims to political and epistemological authority, placing the eventual ruin of the architect Carlos Lazo Barreiro's career as woven within these tensions.

Looking directly at the proceedings of the Habitat conference, Scott's chapter studies its Audio-Visual Program, which could be considered a precursor to the education programs discussed by Heynen, d'Auria, and Loosen. Given the decline of the UN's so-called "technical missions," such as the ones on which Abrams and Koenigsberger had been sent in the 1950s and 1960s, the creation of Habitat, amongst other such topical UN conferences such as the ones on women and the environment, could be seen as a sign of this *weakened* influence. Scott's chapter highlights nonetheless the continuing fracas over coordination, participation, and representation amongst various development actors. The Audio-Visual Program's focus on film and television, as capital-intensive media, inevitably shone a light on its Western originators given the dearth of production, distribution, projection, and broadcasting technologies it necessitated. Eventually the program went in the way that so many bureaucracies had gone before it, as it obsessed more with its own procedures and protocols rather than delivering much on the ground.

Scott's chapter leads us to the next section on *technological transfer*. This group includes chapters by Melany Sun-Min Park, Manuel Shvartzberg Carrió, and Farhan Karim. Park's chapter analyzes the interfaces of technology and labor and the dissonances that appear therein in the attributions and de-attributions of "skills" to various developmental subjects. Park's essay speaks to definitional questions regarding the competence and scope of the architectural profession in South Korea, whose profile, she argues, was tagged onto the country's—American-assisted—objectives to establish heavy industry. This postwar imperative, Park argues, predisposed architects to define the attributes of their profession in managerial and organizational terms that provided them the best language to enter into the scale of investment decisions being negotiated between the state and its clients. Shvartzberg Carrió's essay looks at the US housing industry's prioritization of steel as a "cheap" form of construction as inherently wedged in an international frame of exploitation. These connections are explored through a case study of native American displacement to accommodate new housing development in Palm Springs, California, and new worker settlements in

Ciudad Guayana in Venezuela, an industrial enclave supplying steel to American markets. If Shvartzberg Carrió's and Park's chapters speak to the fractures of modernization, Karim's chapter speaks to the construction of tradition in fostering development, in the shape of so-called earth-based technologies, deemed as ideal for the undercapitalized poor to build their own homes. The essay speaks to the absurdity of foisting this technological choice as a universal panacea, and the evangelism that development critiques sometimes demonstrate in their bids to foster "agency" in the unwitting subjects of development, the poorer the better.

The next section, titled *Designing the Rural*, contains chapters by Olga Toulomi, Petros Phokaides, Fabiola López-Durán, Martin Hershenzon, and Ateya Khorakiwala. That this section has the largest number of contributions is no coincidence: at the turn of the 1950s, the developing world dwelt, by a large margin, outside of cities and urban settlements, engaged in lives far from the spectra of productivity espoused by modern economics. Toulomi's chapter highlights modernist architects'—at least those seeking to impact development contexts—early recognition of this fact, in the shape of propositions for village design. Toulomi's chapter, like Nolan's, looks at two competing and mutually irreconcilable constructs of the village: on the one hand in the sense of the Rousseauian small community invoked by technological mavens such as Marshall McLuhan and reformists such as Mahatma Gandhi and the Indian National Congress, and the smorgasbord of vocations, interests, ethnic allegiances, and landed and other economies that comprised the rural world that architect-planners such as Jaqueline Tyrwhitt sought to enter. Phokaides's chapter takes up another abortive attempt to plan villages, in this case the commission received by the firm of Constantinos Doxiadis to devise a rural settlement scheme for Zambia, to comport with President Kenneth Kaunda's ambitious territorial objective of pushing up productivity in the countryside. As events were to reveal, this was as much an attempt on Kaunda's part—as with other anti-colonial movements such as the Indian National Congress—to forge a captive clientele outside the cities. The evidently farfetched scope of this ambition, a conscious pipe dream that Doxiadis Associates would hardly be loath to disabuse, mattered less than what both patron and client hoped to obtain through this mutual entanglement, for Kaunda to deepen his reach into the countryside and for Doxiadis to simulate some figment of planning activity and data gathering, in the process totting up the firm's resume in order to move on to the next commission. As with Levin's study of Koenigsberger, here we see knowledge capital staring into the terms of its approaching abasement.

Both Hershenzon and Khorakiwala look at building typologies devised to build up capital accumulation in the countryside. Hershenzon's chapter studies cowsheds designed by the Rural Building Research Center in Israel in the context of the newly established Israeli state's dual objectives of fostering rural productivity as a factor of national wealth and social collectives for its new migrant citizens. The essay traces the intersecting goals of collectivist *kibbutzim*'s shared cattle and land-holdings as they transitioned into formalized state initiatives in the farming and dairy sectors, where they were scaled up into regional planning approaches. This scaling-up posed in turn new kinds of problems of racial integration commensurate with the postcolonial predicament of translating the anti-colonial aspirations to community to the formal challenges of citizenship, as the notion of the "collective" slowly devolved into the single family as the basic unit of socialization. Khorakiwala's essay also looks at the grain storage silo in post-independence India as an indexical object in a discourse of national wealth, somewhere downstream from the research carried out at the *Esquelas Nacional* and the IRRI in the battle to combat, certainly food insecurity, but also

the significant challenges to governmental legitimacy from the periodic market crises and inflationary pressures created by capricious agricultural output. Khorakiwala's study of the silo thus locates it as a vehicle not so much of space but of time, as housing a "stage" in a process involving inflationary management, domestic subsidization and support for farmers and consumers, and international flows of technology, commodities, and aid, cross-hatched by the intersecting challenges of market and state. In a situation where food security appeared as a major arbiter of sovereignty, the grain silo, devised as part of a government effort to retain (and represent) surpluses, can be construed as an intersectional object, necessarily challenged by limitations in other sectors, from availability of land and technology to the paucity of expertise in devising an imported typology.

Moving to South America, López-Durán's chapter traces Nelson E. Rockefeller's three decade-long strategy to position oil-rich Venezuela as a pilot project that instrumentalized food production to expand capitalism in the Global South. Masterminding the use of Venezuelan oil camps as laboratories for agricultural production and consumption on a national level, Rockefeller developed a comprehensive scheme that responded to Venezuela's food crisis and at the same time compensated for US monopsony in the oil sector. López-Durán's story begins in the late-1930s, when concurrent nationalization of oil production by Bolivia (1937) and Mexico (1938) had made the vulnerabilities of single-sector export economies all too real to American commodity markets and firms—leading to the 1947 creation of Rockefeller's International Basic Economy Corporation (IBEC), a private global initiative with a focus on food and housing. López-Durán's chapter locates the entire chain of agricultural production, commodification, and distribution that Rockefeller, in league with the oil companies and Venezuela's shifting governments between 1939 and the early 1970s, attempted to put into effect in order to "diversify" its economy. It reveals a series of new spaces ranging from agricultural colonies and clubs in the oil camps to the architecture of modern supermarkets in the cities that introduced a new cultural model of food consumption and recreation. What Rockefeller did not foresee was that Venezuelans themselves would recognize and act against a program that benefited just the US and the Venezuelan urban middle-upper class. As a result, in the late 1960s, it would be these very supermarkets that would become the target of political bombings, as insurgents identified the face of IBEC's economic imperialism in these displaced linkages of rural and urban economies.

The last section of this volume focuses on an essential element of architecture that architectural discourse has addressed little in the last thirty years, although modernist thought prior to the Second World War might be seen to be replete with its consideration: *land*. The chapters by Burak Erdim, Panayiota Pyla, and Konstantina Kalfa all locate the question of land as impelling different kinds of responses in architectural production. The liminality of dwelling in architecture and the liminality of architecture in dwelling find unique expression in Kalfa's study of the *antiparochi* framework of "unplanned" apartment development in Athens, Greece. Kalfa's study speaks succinctly to the problem of architects' legitimacy, as conditioned by the eddies of investment, landed interests, and the nature of political authority. In the context of Greece, as with the prodigious growth of informal, unplanned housing development flowering in the myriad pathways between rural and urban terrains, *antiparochi* directly reflected the nature of the state as well, which is to say the compulsions that represent the vulnerability at the base of its authority. Kalfa's chapter also touches on tourism, as she identifies in the construction of the Hilton in downtown Athens two stark contradictions: land for the Hilton was apportioned by violating the very bylaws that urban planners were

promulgating to check the wave of informal construction, thus rendering the Hilton itself as of a piece, legally speaking, with *antiparochi*. Additionally, if eradicating *antiparochi* was seen as essential to rebuilding Athens as a global tourist destination, eventually *antiparochi* would itself be reconceived as a picturesque urban typology adding to Athens's traditional charms.

Like Kalfa, in the other expanses of the Mediterranean, the chapters by Erdim and Pyla both focus on Hilton hotels, designated as prominent symbols of American influence in the urban downtowns of their client states, in this case Cyprus and Istanbul. Pyla focuses on the construction of tourism as the "lead sector," to use Rostow's terms, for Cyprus's development, seen as more "modern" than agriculture, and highlights within this construction a further set of paradoxes. If tourism came to the fore, this was because for liberal economists it offered, in a "weak" state setting, the best prospects for private, self-sustaining initiatives that lay at the basis of a robust economy. And yet "retrofitting" Cyprus for the tourism sector represented a substantial task, achieved by the state's creation of new financial bodies and large debts contracted from international financial bodies. In what we could see as a premonition of futures elsewhere, nothing manifested this contradiction more than the Hilton, a private establishment that required substantial government expenditure in the form of infrastructural inputs, financial incentives, and regulatory manipulation to bring it into being. In sum, the Cyprus government had put substantial resources into an entity over which it had no control, whose lever of power lay in its ever-present threat of departure if not kept supplied by future cycles of state benefits.

Erdim's account of the Istanbul Hilton tells a comparable story, although this is narrated in the context of the postwar Turkish state's efforts to modernize land tenurial and construction systems. As a recipient of Marshall Plan aid, Turkey's attempts to support the construction market as the receptacle for surplus agrarian migrant labor necessitated interventions in zoning, building codes, and the creation of an insurance industry. It was in this context that Charles Abrams went to Turkey, ostensibly to provide recommendations for regulatory agencies in the building sector, but in the event he was deemed *persona non grata* given the Turkish government's displeasure with the Americans at the withdrawal of Marshall Aid funds at that time. As Erdim's chapter shows, neocolonial dominance was hardly a guarantee for consonance between the mandates of foreign experts and national governments. Abrams's arrival in Turkey immediately after Marshall Plan aid was withdrawn found him at odds with the government, with officials unwilling to brook technical advice without financial purse-strings attached: the creation of the Middle East Technical University (METU) that would ensue offers a runaway story in the alignment of interests from various factions within the government as well as American and UN development agencies.

That the political economy of land became one of the most fraught problems in development discourse was not a coincidence. Land continues to be exceptionally resistant to its transformation into a purely economic element. Like the money form, it embodies a multitude of social relations within it that govern access, tenure, and its use. This resistance is primarily epistemological, similar to how the blurring of rural-urban distinctions in the developing world proved to be an intransigent obstacle in the West's utopic traditions of conceptualizing the city. By attending to how architecture, as a form of expertise and know-how as well as the producer of technical and aesthetic objects, attempted to manage difference by mediating between competing epistemologies, different scales of intervention, temporal as well as spatial, and various sectors of governance, the chapters that follow consider architecture as a field that fleshes out in concrete form the aporias and crises of development discourse.

NOTES

- 1 Arturo Escobar, *Designs for the Pluriverse: Radical Interdependence, Autonomy, and the Making of Worlds* (Durham, NC: Duke University Press, 2018), 32.
- 2 q. Jamie Martin, "Were We Bullied?" *London Review of Books* 35, no. 22 (November 21, 2013).
- 3 Alain Badiou, *Metapolitics*, trans. Jason Barker (London: Verso, 2005).
- 4 For the concept "theater of development" see Ayala Levin, *Architecture and Development: Israeli Construction in Sub-Saharan Africa and the Settler-Colonial Imagination, 1958–1973* (Durham, NC: Duke University Press, 2022), 15–18.
- 5 Mahbub ul Haq, *The Strategy of Economic Planning: A Case Study of Planning* (Karachi: Oxford University Press, 1963), 1.
- 6 Eric Helleiner, "Bretton Woods and the Endorsement of Capital Controls," in *States and the Reemergence of Global Finance: From Bretton Woods to the 1990s* (Cornell, NY: Cornell University Press, 1994), 25–50.
- 7 Rosenstein-Rodan first presented this argument in a short paper titled "Problems of Industrialization of Eastern and South-Eastern Europe," *Economic Journal* 53 (1943): 202–211. Also see Rosenstein-Rodan, "Notes on the Theory of the 'Big-Push,'" in *Economic Development for Latin America*, eds. Howard S. Ellis and Henry C. Wallich (New York: St. Martin's Press, 1961), 57–81.
- 8 Nils Gilman, *Mandarins of the Future: Modernization Theory in Cold War America* (Baltimore: Johns Hopkins University Press, 2003); also see Edward B. Shils, *Tradition* (Chicago: University of Chicago Press, 1981).
- 9 P. P. Streeten, "International Cooperation," in *Handbook of Development Economics*, eds. Hollis Chenery and T. N. Srinivasan, vol. 2 (New York: Elsevier, 1989), 1154.
- 10 Noam Chomsky, *Cartesian Linguistics: A Chapter in the History of Rationalist Thought* (New York: Harper & Row, 1966); Albert O. Hirschman, *The Passions and the Interests: Political Arguments for Capitalism Before Its Birth* (Princeton, NJ: Princeton University Press, 1977); Alexandre Koyré, *From the Closed World to the Infinite Universe* (Baltimore: Johns Hopkins University Press, 1957).
- 11 Michel Foucault, *The Order of Things: An Archaeology of the Human Sciences* (New York: Vintage Books, 1966, 1994).
- 12 See Keith Michael Baker, "The Language of Science," in *Condorcet: From Natural Philosophy to Social Mathematics* (Chicago: The University of Chicago Press, 1975), 85–128.
- 13 Paul Krugman, *Development, Geography, and Economic Theory* (Cambridge, MA: The MIT Press, 1997), 71.
- 14 David Webster, "Development Advisors in a Time of Cold War and Decolonization: The United Nations Technical Assistance Administration, 1950–59," *Journal of Global History* (July 2011): 260.
- 15 Friedrich A. von Hayek, "The Use of Knowledge in Society," *American Economic Review* XXXV, no. 4 (September 1945): 519–530.
- 16 Charles Abrams, "Aid: Experts and 'Inperts,'" in *Man's Struggle for Shelter in an Urbanizing World* (Cambridge, MA: The MIT Press, 1964), 93.
- 17 Ibid.
- 18 Ibid., 94.
- 19 Ibid., 101.
- 20 Albert O. Hirschman, "A Dissenter's Confession: 'The Strategy of Economic Development' Revisited," in *Pioneers in Development*, eds. Gerald M. Meier and Dudley Seers (New York: Oxford University Press/The World Bank, 1984); Albert Hirschman, *The Strategy of Economic Development* (New Haven, CT: Yale University Press, 1958).
- 21 If the Treasury were to fill old bottles with bank-notes, bury them at suitable depths in disused coal mines which are then filled up to the surface with town rubbish, and leave it to private enterprise on well-tryed principles of laissez-faire to dig the notes up again . . . there need be no more unemployment, with the help of the repercussions, the real income of the community, and its capital wealth also, would probably become a good deal greater than it actually is.
(John Maynard Keynes, *The General Theory of Employment, Interest, and Money* (New York: First Harvest / Harcourt, 1964), 129)
- 22 Abrams, "Aid: Experts and 'Inperts,'" 104.
- 23 See for example Hollis Chenery and T. N. Srinivasan, *Handbook of Development Economics*, vols. 1 & 2 (New York: Elsevier, 1989).
- 24 Langdon Winner, "Do Artifacts Have Politics?" *Daedalus* 109, no. 1, Modern Technology: Problem or Opportunity? (Winter 1980): 121–136.
- 25 See, for example, Łukasz Stanek, *Architecture in Global Socialism: Eastern Europe, West Africa, and the Middle East in the Cold War* (Princeton, NJ: Princeton University Press, 2020); Cole Roskam, "Non-Aligned Architecture: China's Designs on and in Ghana and Guinea, 1955–92," *Architectural History* 58 (January 2015): 261–229; Vladimir Kulić, "Building the Non-Aligned Babel: Babylon Hotel in Baghdad and Mobile Design in the Global Cold War," *ABE* 6 (2014).