DEVELOPMENT Systems and the Emergence

of the Global South

AGGREGATE



Architecture in Development

Systems and the Emergence of the Global South

Edited by Aggregate



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1

Incompletion

On more than a certain tendency in postwar architecture and planning

Arindam Dutta

This chapter compares two otherwise unrelated planning projects of the early 1960s. Both projects represent "failures" of some kind. The projects are Candilis-Josic-Woods's (CJW's) propositions for a new township, Le Mirail, on the outskirts of Toulouse, France, and the Ford Foundation's Basic Development Plan for the city of Calcutta (now Kolkata), India. I say otherwise unrelated because the two projects do not share any dramatis personae, and although initiated in the same year, 1961, they would have no influence on each other. Much separates the two projects in terms of scope, geography, governmental and institutional frameworks, and the nature of capital formation in the two countries, not to rule out of course social composition and culture. Le Mirail was a much smaller project, a mixed-use development conceptualized for 100,000 people, one piece in a broader regional development plan for the Toulouse region. By contrast, the Calcutta plan catered to a population of some 7 million people, projected to double in twenty years. The territory covered by the plan encompassed 200 square miles, and the economies surveyed were linked to a hinterland of 150 million people.¹ This scalar discrepancy also entailed a difference in planning type: unlike the "physical" propositions of the CJW plan, Ford's Calcutta "plan," such as it was, can be described more as an attempt at administrative reform, incorporating massive infrastructural inputs, the economics of rural-urban linkages, market operations, and so on.

What I focus on in these two projects is the emphasis on *time-modeling* as the central feature of their approach: hence the "incompletion" of my title. Narratives of political and economic transition after the Second World War can be succinctly measured by the shift in fortunes of a particular type of global—and globalizing—document that by the mid-1960s appeared to be at a low ebb. This was the master plan, a genre defined by large, brightly colored and color-coded maps and drawings, covering large tracts of territory—cities, regions, or even whole countries—packed thick with symbols—arrows, legends, diagrams, indices—that correlated them with demographic and economic data of various sorts.

Visually, these plans appear to have to do with the placement of objects—population concentrations, logistics, infrastructure, economic zones—in space. In actuality what they mapped were *expectations*, sequences unfolding in time, concatenations of causes and effects, whose totality was encapsulated in the plan's claim to represent the future. The incompletion

I describe in this chapter is therefore of a double kind. It refers in the first instance to the deportment of the master plan document as a *teleological apparatus*. The modernizing crux of these master plans, and planning in general, lay not in professions of ruling out uncertainty and unpredictability in the future but in their claims of bringing uncertainty within a *viable range* of calculability and rationality. Master plans are by definition incomplete.

In the two decades after the Second World War, these plans would embark on what was literally a downward journey: from tops of tables, the cynosure of heads of states and ministers with their bevy of technical consultants, to bottom drawers in dusty plan chests in planning offices. The actual abandonment of these plans comprises, in our study, incompletion in the second instance. If incompletion in the genre of the master plan represented a warranty against failure, this would prove to be no warranty at all. Plans would fail nevertheless, but not on the terms that the master-planners had anticipated. Incompletion in the first instance would provide the stimulus for massive expansion in the modernizing frames and claims of knowledge; in the second, it would entail a cauterization and a forced closure of these claims, opening up a dispiriting void in the place where expertise had once been.

We started by noting differences between the scope of the CJW and the Ford projects. Much also lay in common between them, as observers noted at the time.² Both France and India, like many other countries, had adopted so-called "mixed economy" approaches. Both emphasized the necessity of strong state intervention in the realm of public goods—in Albert Hirschman's terms "social overhead capital," contents of which varied from country to country—with the anticipation that eventually the bulk of economic activity would be carried by a vigorous private sector defined by market principles of competition and entrepreneurship.³ Both countries were signatories to the Bretton Woods Agreement, ostensibly aimed at securing free trade in goods and services but in effect an arrangement that subjected their economies and governments to the writ of the United States Treasury. Both countries balked at this dependence, countering this by adopting the fiscal strategies of what came to be called *dirigisme* or the command economy, where the state retained the prerogative of defining long-term sectoral priorities, shaped by the temporal structure of "five-year plans," inspired by the socialist world.

In both countries, the prerogative of devising the five-year plans went to what were in fact *extra-constitutional* bodies: in France the Commissariat général du plan de modernisation et d'équipement, and in India the Planning Commission.⁴ Both bodies lacked executive authority and occupied strictly "advisory" positions. Throughout their careers, the where-withal of these expert bodies would remain wholly reliant on their charismatic patrons, Charles de Gaulle and Jawaharlal Nehru, who in turn used them to concentrate decision-making powers against political contenders in their own cabinets. The careers of both expert bodies were consequently defined by intrinsically inimical relationships to their finance ministries, tensions that then undergirded every proposition or project launched under their auspices. Ford's leadership in India understood this well and sought to use intragovernmental divisions to their advantage:

During the decade following India's emergence as a nation in 1947, "father figures" like Prime Minister Nehru, at the national level, and [West Bengal] Chief Minister B. C. Roy, at the state level, dominated political life. Their power stemmed in part from the inherited paternal governmental mantle of their colonial predecessors and in part from their leadership during the struggle for Independence. When these men took up "pet projects"—as Nehru apparently had done with the urban plan for Delhi—those projects were almost certain to be carried out.⁵ Both the Toulouse and Calcutta projects thus also substantially benefitted from powerful regional patrons: Roy in West Bengal and in Toulouse, the socialist mayor Louis Bazerque. Both cities would see a significant influx in civil war refugees, producing what would be perceived as large-scale demographic "imbalances." In the case of Toulouse, some 27,000 pied-noirs would move there from Algeria. Calcutta had received a staggering 2 million people during the partition of India, the world's largest human migration to date. An additional million people would arrive in 1971, with the onset of the Bangladesh War. Both cities boasted a sizeable communist/socialist left, which would lend both projects a regional complexity with regard to reigning political dispensations in Paris and New Delhi. Against the background of the Cold War, these ideological and political tensions-between experts over *dirigisme* and in politics between non-communist and communist adversaries—would cast both projects as international cause célèbres in their own right. Le Mirail would be broadcast as "the most important urban project in Europe," meriting a visit from Soviet Premier Alexei Kosygin, amongst others.⁶ Likewise, Ford consultants, in keeping with the ineluctable self-promotion demanded of their profession, drummed up the immensity of the challenges involved. Calcutta, they declared, was the "toughest planning job in the world in operation" and the "biggest and most important [job] that would ever engage [the] minds" of its participants.⁷ The city would become a vital pit stop for a range of luminaries, from World Bank head Robert McNamara, Harvard and MIT presidents Nathan Pusey and Julius Stratton, US Ambassador John Kenneth Galbraith, and MIT political scientist Myron Weiner to the veritable circus of architects and planners eyeing the global development market. Charles Abrams stopped by, as did Catherine W. Bauer and Gordon Cullen (engaged by Ford for both the Calcutta and the New Delhi projects). Each came riding their hobbyhorse into town: Cullen argued for the urban design approaches espoused by the British townscape movement; more ludicrously, Julian H. Whittlesey, an ex-associate of Albert Mayer and part of the Ford team, proposed that Buckminster Fuller-type geodesic domes be massmanufactured and deployed to address the pressing challenges of Calcutta's slums.

Both projects benefitted from the regional importance accorded to these cities by their federal governments. Toulouse and the midi-Pyrénées would be designated as an essential node in the Fifth Republic's plans for an économie concertée, one of eight métropoles d'équilibres et grandes agglomérations by the Délégation à l'Aménagement du Territoire et à l'Action Régionale (DATAR). This distributional "physical planning" strategy was given further impetus by the decision to nominate Toulouse as the new hub of the French aircraft (and eventually electronics) industry, with the objective of enticing technical and scientific expertise away from the lopsided primacy that the Paris metropolitan region enjoyed in all matters economic, cultural, scientific, and political. Pursuant to this policy of l'aménagement, Paris's propositions to vest a large number of ancillary research labs and institutes in Toulouse conjured up prospects of the imminent migration of technocratic elites to what was still a small medieval city. Toulouse's socialist mayor, Bazerque, deeming his urban charge as unprepared and little equipped with the modern amenities suited to the approaching surge of metropolitan intellects, sought to requisition large federal outlays toward a conurbation plan equipped with large transportation and infrastructural networks. New zoning ordinances were introduced outlining new industrial and residential zones supported by a system of green belts. The exotic, newfangled modernist propositions of Le Mirail, designed by an architectural consultancy (CJW) whose reputation as "experts" was on the upswing it would win two other comparable public works projects across Europe, Caen Hérouville (40,000 inhabitants) and Bilbao Val d'Asua (80,000 inhabitants) in the same period—would be the lynchpin of this regional plan. For Bazerque, CJW's drawings and renderings would serve as both visual totem and marketing billboards for his urban ambitions. Le Mirail was designated a *zone à urbaniser par priorité* (or ZUP), representing the keystone in a bid by the Toulouse municipality to attract key national and regional subsidies, not to rule out investments by developers and commercial partners (with the requisite abetments and enticements) in what was in essence—portentous pronouncements on "*le habitat pour le plus grand nombre*" aside—a suburban residential enclave.

Calcutta, once Britain's imperial capital in Asia, would appear on Ford's radar for quite the opposite narratives than the ones of upward mobility being written in Toulouse. In 1960, the city was still one of the largest conurbations in the world. Mid-century shifts in global commodity supply chains-notably the shift of packaging industries from jute to plastic—as well as the loss of its hinterland during partition set what was hitherto India's largest industrial center on a steady path to deindustrialization. Soaring unemployment, the growing pressures of population and large slum areas-housing an excess of half the city's population-made for an explosive political situation that neo-Malthusian American foreign policy was primed to recognize, particularly with Vietnam escalating in the neighborhood. "I HAVE FELT CALCUTTA, I LOVE IT ... Fantastic slums ... I have to pinch myself," trilled the aforementioned Whittlesey.8 The Americans were well familiar with Calcutta. The city had served as the principal Allied base for the Burma front during the Second World War: some 150,000 Americans had been stationed there, some of them on the large airbase in the city's north, in Kalyani, newly built to run air-supplies to Chiang Kai-shek's embattled, landlocked troops across the Himalayas. In the process they had had to significantly modernize and refurbish Britain's patchy, crumbling, and inferior supply infrastructure in its biggest colony, developments that had been looked on with admiration by planning enthusiasts within the Indian National Congress (then mostly in prison) itself.

Ford officials would play up Calcutta's escalating urban problems as building up yet another political precipice in Asia, another domino in a chain of dominantly agrarian societies imminently susceptible to fall into the powerful lures of communism. "If Calcutta falls into the Communist camp, or into suicidal anarchism, all of Asia will take heed and probably follow . . . strengthening Calcutta is a matter of vital concern to the whole free world."⁹ This alarmism represented less ideological conviction than an attempt to attract additional sponsors, namely the US Department of State, to invest in the consultancy effort. After a Marxist government was elected to power in West Bengal in 1967, Ford insiders noted that while Ford's leadership

had been concerned in 1961 that one purpose of the Foundation's entry into Calcutta would be to help avert West Bengal's loss to the Communists, [they] were perfectly willing to work with the Communists in 1969 if they were prepared to support programs for Calcutta's development.¹⁰

Between 1961 and 1974, Ford's propositions for Calcutta would find themselves confronting not just its spatial challenges but administrative challenges as well. Anglo-Saxon jurisprudence, both at home and in its colonies, as is well known, signally inveighed against the governance of cities as unified jurisdictional entities, a characteristic that would prove a major stumbling block for Robert Moses in New York and the Labour Party's planning strategies in London alike. Calcutta was no different. The city's name was, at best, mere toponym. Little existed by way of an administrative apparatus armed with the jurisdictional and revenue powers that could leverage externalities across multiple sectors (transportation, education, police, healthcare, property rights, land values, utilities, and so on) that was the leitmotif of modernist planning doctrines.

In this sense, perhaps Ford's greatest contribution was the creation under its guidance of a new bureaucracy, the Calcutta Metropolitan Planning Office or CMPO, to precisely effect such leverage, albeit this too would, symptomatically, be granted few jurisdictional powers. Quite like its archetype in New Delhi, the Planning Commission, the CMPO would primarily remain a knowledge-producing enterprise, tasked with gathering data and mobilizing inputs from citizens' bodies as well as administrative and electoral officials in order to best assist urban decision making, whose wherewithal lay outside its purview (see Figure 1.1). In France, *l'aménagement* likewise involved the construction of what was largely

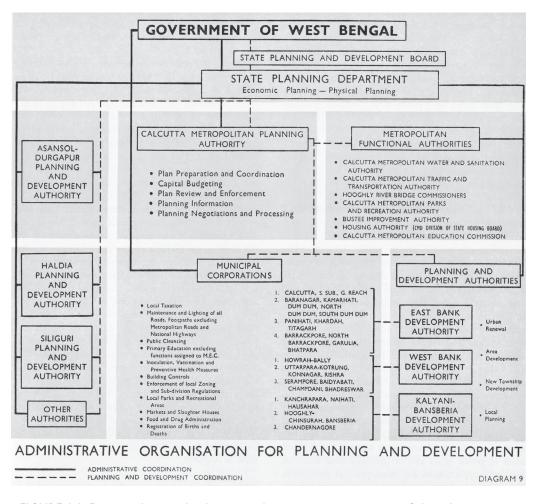


FIGURE 1.1 Diagram showing the decision-making structure pertaining to Calcutta's governance within the West Bengal government and Ford's (i.e. CMPO's) place within it.

Source: Calcutta Metropolitan Planning Organisation, Basic Development Plan: Calcutta Metropolitan District 1966–1986 (Calcutta: CMPO, 1966).

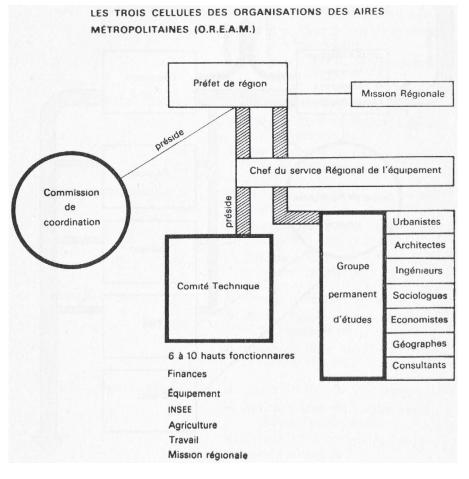


FIGURE 1.2 Diagram depicting DATAR expert inputs in relation to prefectures.

Source: Ministère de l'équipment, Délégation à l'aménagement du territoire et à l'action régionale, Documents relatifs à l'organisation des études d'aménagement des aires métropolitaines (Paris: DATAR, October 1966).

a new apparatus of knowledge gathering and inputs, a framework that inevitably placed its "experts" at odds with existing regional power structures (see Figure 1.2). In Calcutta, such tensions between expertise and politics, Ford correctly anticipated, would also take on the inevitable accusations of "foreign intervention," a scenario that Ford Foundation officials sought to counter by carefully positioning Indian personnel in the foreground, in the end to little effect.

In terms of physical planning, the broad recipes followed in Toulouse and Calcutta were remarkably alike, and in keeping with urban planning doxa anywhere on the globe at this time. Both plans advocated ring roads to stave off congestion in the city center, proposing to redirect population density instead toward the urban periphery, dotted by new, township-size residential and office enclaves. Le Mirail would acquire a companion piece in Calcutta with the creation of Salt Lake City to the city's east, designed by the Yugoslavian para-statal infrastructure firm Ivan Milutinovic-PIM. Technical expertise for the Ford transportation plan for Calcutta was sub-contracted to the Connecticut offices of

the American infrastructure firm Wilbur Smith and Associates, whose capabilities, like Ivan Milutinovic-PIM, were built on a "deep state" portfolio of public transportation and military contracts.

PLANNED INFLATION IN THE BRETTON WOODS SYSTEM

In either case—as with all master-plans of the time—the scale of proposals far exceeded the budgetary, not to rule out juridical, powers of their promoters. This thus begs the crucial question, responding to which in some fashion establishes the basis for the arguments underlined in this essay: how did planners propose to pay for these projects?

Here we encounter the specter of incompletion in its first sense, which concerns the phase-bound approach taken in these large-scale planning exercises. Indeed, phasing—as with five-year plans-represented a critical point of departure for postwar governments, comprising a novel fiscal-technocratic device that would have been unthinkable in the laissez faire outlook of prewar governments, one that owed its existence precisely to the Bretton Woods exchange mechanism. As is well-known, the exchange mechanism was not one but many, comprising a veritable alphabet soup of institutions dedicated to different tasks, from infusing liquidity into credit-starved nation-states, to settling international payments, to providing targeted low-interest sovereign loans for modernization projects, to providing technical expertise, and to finding instruments to even out international asymmetries of education, skills, income, rights, food security, and so on. Acting in concert, or so it was argued, these interlinked institutional apparatuses would be critical to stave off nationstates from falling into the crippling financial crises that had led the world into the Great Depression and two catastrophic wars. With the International Monetary Fund always on hand to inject liquidity—and the US dollar acting as global default currency—governments could use the counter-plays of inflation and interest rates as a strategic tool to better define, prioritize, and rationally sequence their fiscal needs and outlays. Fiscal decisions would not be subject to periodic volatilities of national and international markets, but in accordance with long-term objectives of productivity and distribution. "It came to be increasingly accepted . . . that the secular growth rate of the economy was a parameter manipulable by public policy and an appropriate dimension for a social welfare function even in capitalist states."11

This approach has been mistakenly described as Keynesian. In fact Keynesian economics, *deliberately* aimed at the "short-run," not only had little to offer in this respect but was also doggedly opposed to long-term state intervention. In Keynes's own view, *laissez faire* principles and the "animal spirits" of the market—where private firms were given wherewithal to determine their own efficiencies of input and output, or fail in the process—offered far superior informational tools to ensure enduring robustness in the economy. Only under certain, presumably exceptional, conditions was the state to intervene, a case in point being the Great Depression. There, deterioration in wage levels—demand—had combined with oversupply and overcapacity in production systems such that the "natural balance" (as per Say's law) between demand and supply could not be reestablished on its own accord. Only in such conditions, and such conditions only, would the state have a role to play, by providing an exogenous but calibrated stimulus in the form of an inflationary money supply until such a point that disequilibria between investment patterns, production, and demand could be restored within a viable range.¹²

As opposed to this "classic" Keynesian doctrine, far more significant within global development circuits was a certain theology of "growth" as it shaped itself in the 1950s and 1960s, fostered by a complex intellectual exchange between post-Keynesians such as Roy Harrod, Evsey Domar, Robert Solow, Hollis Chenery, and an émigré cadre of Central European economic thinkers of quasi-Marxist, "structuralist" persuasions such as Michal Kalecki.¹³ For these thinkers, it was precisely their interest in the long run that became the departure point for a new economics. Proponents of growth theory argued that Keynesian short-term fixes or distortions did more harm than good in that monetary infusions created pent-up inefficiencies which otherwise in any case more drastic fluctuations in naturally occurring business cycles would eliminate. More crucially, short-term monetary management offered little by which the economy could graduate from the structural discrepancies of low productivity, high labor surpluses broadly defining the developing world, to the near-full employment, highly industrialized conditions that Keynes's General Theory assumed as a sine qua non for its propositions. Consequently, Keynesianism, these thinkers argued, was pointedly ineffectual when it came to choosing defining strategic investment decisions in any given sector not least because Keynes himself had stringently warned against such statist foibles-or for that matter, in laying out a roadmap for how nonindustrialized or semi-industrialized economies would effect the transition to full-fledged capitalism.

The success of growth theories in postwar governmental and planning circles thus owed significantly to their proponents' proclivity toward defining national and international economies in terms of input-output equations of various sorts, models that easily translated into tractable policy strategies for economic planners. The Harrod-Domar model, for instance, offered a simplified and elegant way of understanding GDP as a simple function of investment, wherein planners "choice of projects" could be theoretically measured in advance in terms of their respective capital-output ratios.¹⁴ By transubstantiating complex relationships between money, wages, technology, society, etc. into so many determinable "inputs" along a measurable chain, ersatz concepts such as the "production function" were claimed as effective gauges to measure allocative efficiency. In the process the economists handily rewrote the "economy" as a field formalism, where physical inputs and outputs within a given production process could begin to be visualized almost in the manner that an engineer might worry about how much coal or water to carry to move a train carrying *x* numbers of people from London to Manchester.¹⁵

Two implications follow from this, relevant to the idea of phasing that we have highlighted earlier. The first is that given the presumption of relatively steady monetary inflows, growth could be structured as a kind of sequence. A country could, for instance, prioritize, in its first Five-Year Plan, heavy industry and the power sector so as to trigger downstream growth of manufacturing, in the second, agriculture and food security, allowing for greater control over inflation and prices, in the third, small industries to take up large slacks in employment, and so on. Large multi-sectoral projects or priorities within sectors could likewise be broken up and realized in stages. The second implication is equally important. If inflationary fluctuation could be modeled as predictable, then both public and private actors could simply *discount* these effects as part and parcel of their investment decisions. In other words, it was as if time itself, or the discounting of risk that investors typically feared in market unpredictability, could be canceled out as a factor in production decisions. This is one attribute of incompletion that is critical to keep in mind: strategies of incompletion—phasing or staging—were specifically premised on *predictability* in inflationary patterns. *Dirigisme*

and incompletion, in other words, represented two faces of the same coin. Planning would be nothing else but the planning of incompletion, the fashioning of unpredictability as a function of predictability, where all social and economic volatility would be subsumed as so many (manageable) errata within a "secular" gradient of change.

ON THE PRIMACY OF TIME

It is within this epistemological strand of translating the economy into a field formalism and its use for various rhetorical claims toward action and decision making made by postwar academic and governing elites that we see the emergence of "space"—in the manner astutely highlighted by Henri Lefebvre at this time—delineated as a new governmental domain.¹⁶ Since risks appearing over time could be discounted via the state's continued interventions in debt and inflationary management, growth could be defined as a distributional question of *where* particular investments or interventions should be concentrated. (In Lefebvre's own writing, firmly grounded in Marx, the primacy of time over space remains unquestioned—Marx addresses this in his treatment of the play between what he called "formal" and "real" subsumption—an essential crux of his arguments that appears entirely lost or misunderstood in characterizations of "spatial-Keynesianism" espoused by recent Lefebvreian enthusiasts.)¹⁷

A veritable army of geographers, sociologists, statisticians, and planners set to work modeling national space in the image of the mathematical field formalisms propounded by the economists. Where to put that large chemical factory? From where to where should a highway go? Should housing be seen as a private or public investment? Should education be addressed as "social overhead capital" or a commodity like any other? If the former, to what levels (primary, secondary, tertiary)? Research? Should the state install industries producing high-value goods involving large-scale infusions of capital goods and high productivity in a region composed largely of low-income, subsistence agriculture (advisable in political terms but inadvisable in economic terms given costs from higher inefficiencies)?¹⁸ Space, in other words, was another name for geographical unevenness, the inevitable "imbalances" and conflicts emerging from historical divergences of capital formation, technological absorption, cultural habit, political resistance, and so on, between localities and regions.

Both the Le Mirail and Calcutta projects can be read as indices of a double incompletion: a spatial one, which divided the project timeline of Le Mirail, for example, into multiple stages; this in turn hinged on a *prior* temporal apprehension of incompletion, which involved the monetary-fiscal inputs on which they were reliant on to secure their success. CJW's Caen Hérouville and Bilbao Val d'Asua projects would also adopt similar phasing strategies. Ford's phasing strategy in Calcutta likewise expressly split up its sectoral and intra-sectoral priorities along priorities projected for India's fourth, fifth, sixth and seventh Five-Year Plans, with the first two phases sketched out in the greatest detail (see Figure 1.3).

At the time, Shadrach Woods made clear CJW's dawning realization of the hollow premise of uniform space espoused by the old CIAM, their "talk of *cet espace* or of that *mouvement*, absolutely wallowing in the jargon of composition."¹⁹ The CJW propositions consequently specifically address the city as a transformed cognitive object, placed at the interface of economic planning, allocational and locational dynamics, property speculation, and investment patterns. It is no longer a unified container, a bounded entity with a finite set of contents. Rather its boundaries, such as they are, represent arbitrary spatial delimitations

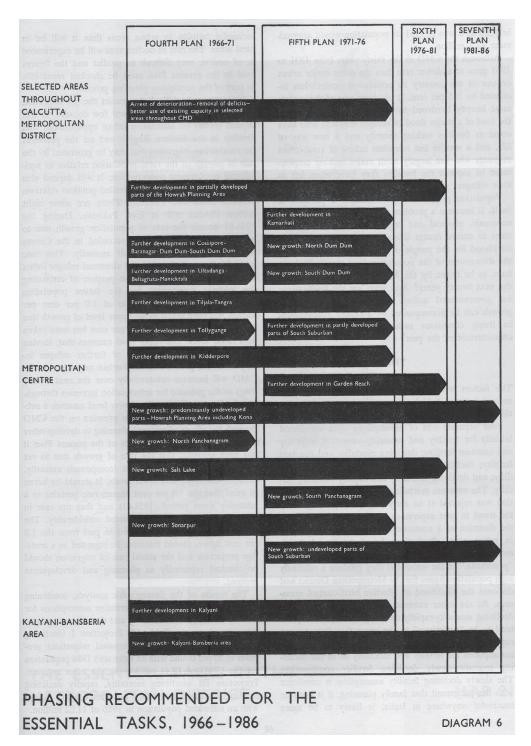


FIGURE 1.3 Ford/CMPO diagram distributing geographically divided growth into Five-Year Plan fiscal phases.

Source: Calcutta Metropolitan Planning Organisation, Basic Development Plan: Calcutta Metropolitan District 1966–1986 (Calcutta: CMPO, 1966). over multiple, overlapping circuits whose origins and ends lie far from this delimited space, interrelationships among which, moreover, are constantly in a process of flux or uncertainty. To talk of the city is therefore not to talk of a space but of an entity in time; like the capitalist market, it is prone to volatility, mutability, fickleness, and risk. Thus, phasing strategies in planning and architectural discourses of this time do not refer to different parts of selfsame entities. Planning would no longer be the simple matter, as the prewar modernists had envisaged, of laying out subdivisions or zones, in the purely spatial sense. Phasing sketches out the calendar of a future that cannot be fully known. Each event, each realized bit of the project in this calendar comprises a fragment or an assembly of fragments, each of which respond in turn new, emergent concatenations of factors, contingencies developing from the volatile mix of all the inputs that go into planned development: executive actions, jurisdictional tensions, legal adjudications, political patronage and opposition, the vicissitudes of consumption patterns, investments, supply, prices, market movements, elections, and allocational preferences, if not the nature of the social contract itself. For Woods, each phase of the Le Mirail would represent

a fragment of a continuous social reality. . . . As a consequence of being staged, the plan had to allow for modification as conditions changed over the relatively long span of development . . . we had two basic conditions, growth and change, as imperatives of the plan.²⁰

Stage 2 would follow Stage 1, but these phases would not resemble each other. The latter stage would rather be as if an "operation . . . held in reserve," open to wholly new considerations, modifications, resolutions for which the previous stage would serve as a test. "It will . . . adapt to new conditions as it is carried into effect. It will react to the conditions which it creates and, in a continuous feed-back process it will, ideally, change constantly."²¹ The project is incomplete through and through in its very conception (see Figure 1.4). Failure in the parts would be key to success in the overall.

M. Christine Boyer has described how the *Team 10 Primer* would be constructed in precisely this way, as an assembly of fragments, piecemeal revelations, and jotted-down realizations essaying forth into what appears as an unbounded, limitless conversation. The book is compiled quite like how its authors comprehend the city.²² Indeed, in the mid-1960s, a sensibility of incompletion can be said to pervade the entirety of architectural thought, all of which begins to revolve around the examination of fragments. Denise Scott Brown explicitly stated as much:

The development of architectural thought since World War II [has] gone in essentially two directions. One is towards methodical rigor: toward the evolving of concepts and theories of method—planning method or design method—and the use of systems analysis, mathematics and the computer, to make complexity manageable. The other direction is toward the partial and incomplete: towards philosophies of the circumstantial and incremental, and notions of how to live with complexity and contradiction.²³

A similar tendency can be seen in the Design Methods movement. "We may therefore picture the process of form-making as the action of a series of subsystems, all interlinked, yet sufficiently free of one another to adjust independently in a feasible amount of time."²⁴ In Japan, all of Kenzo Tange's projects—the Yamanashi and Shizuoka Press and Broadcasting Centers (both 1966) and the Osaka Expo '70 pavilion—realize the *fragments* of the *same*



FIGURE 1.4 Plan of CJW's Toulouse-Le Mirail showing its two phases. Only one-third of the first phase would be completed, fully funded by the state.

Source: George Candilis, Alexis Josic, and Shadrach Woods, Toulouse Le Mirail: Birth of a New Town (Stuttgart: Karl Krämer Verlag, 1975): 22.

city, first developed *in abstracto* in the Boston Harbor project at MIT (1959) and the Tokyo Bay Plan (1960).

What does an architecture of incompletion look like? What would be its form? At Le Mirail, CJW utilized the organicistic concept of a "stem" to sequester essential infrastructural functions such as circulation and other amenities from more flexible, that is, marketresponsive elements such as housing, commercial establishments, entertainment venues and so on. Woods would later rue the relegation of *form* in terms of the ebbing powers of the architect herself: "What we accomplished . . . was the revelation that building could easily be organized without architecture."25 Within the Ford organization in Calcutta, the dispute over formal specificity went further with a full-fledged war erupting between the planners and the architects. To address the city's burgeoning slum problems, Whittlesey's response was to utilize mass-produced geodesic domes in conjunction with a symbolic ziggurat, the former to combine work and life activities and the latter as a modern totem encapsulating religious and charismatic power of the type that he thought Indians continued to repose in figures like Nehru. Such technological symbolism, he argued, was necessary "to secure publicity and overcome the conservative Bengali mind. . . . Technology must and can win over politics. Nehru knows this. [Deliberative, consultative] politics is a dull weapon."26 On his part, Ford's mission head Arthur T. Row decried Whittlesey's "picturesque stunts," complaining that they "proposed an architectural solution to a non-architectural problem."27 At Le Mirail, Woods would take this conflict of architecture and non-architecture more personally, noting that for their clients (Bazerque) the symbolic, mediatic attractions of architecture were precisely what reigned supreme, seen as necessary to attract investors:

So we, the architects, are called in at a rather late date, as usual, when some of the decisions affecting design have already been taken, although the persons making those decisions probably are ignorant of their effect on the physical environment which is to be created.²⁸

As a consequence, he noted elsewhere, "We have to resort to gimmicks, to prestidigitation."29

In formal terms, incompletion is thus defined by these countering imperatives of *anti*architecture (Calcutta) and *part*-architecture (the "stem" in Le Mirail). These countering imperatives toward incompletion will in themselves launch an array of projects, in practice and through a new institutional emphasis on "research"—an activity little evinced institutionally in architectural schools up to this point—into new grammars of form-finding, of a new aesthetics of putting together parts and wholes. Reacting against presumptions of space as a homogeneous, uniformly divisible, entity, totemized in the Corbusierian tower or the Miesian box, this Second Modernism will instead turn toward the intersections of spatial relations and manner in which these relations *unfold in time*.³⁰ Architectural output will begin to dwell not on outputs but on the processes of output. Thus, to speak of the forms, the morphology—a term that acquires some currency at this time—of incompletion, of what an architecture of incompletion *looks* like, would be strictly speaking a redundancy in that what these approaches specifically discount is the significance of the look or of appearances, of the importance of the finished form.

On the other hand, it would be equally a mistake to take this emphasis on contingency and informality at its word, as lacking in form or concrete formal attitudes. The anti-aesthetic will have an identifiable aesthetic. The embrace of contingency will in fact result in a finite, identifiable, array of shapes, materials, textures, even its own discourse on ornament, that today appear as signature traits of that era. Grammar will not remain mere grammar: rather this grammatology will foster some well-defined modes of expressivity, full-fledged formal patois or poetic dogmas that will foster a recognizable genre of objects (see Figure 1.5). In many cases—for example, Christopher Alexander, as per Ginger Nolan's chapter (Chapter 7) in this volume—the very premium given to flexibility and change will in fact result in far more dogmatic, neurotic approaches than the geometric fixations of the older modernists that they would criticize.

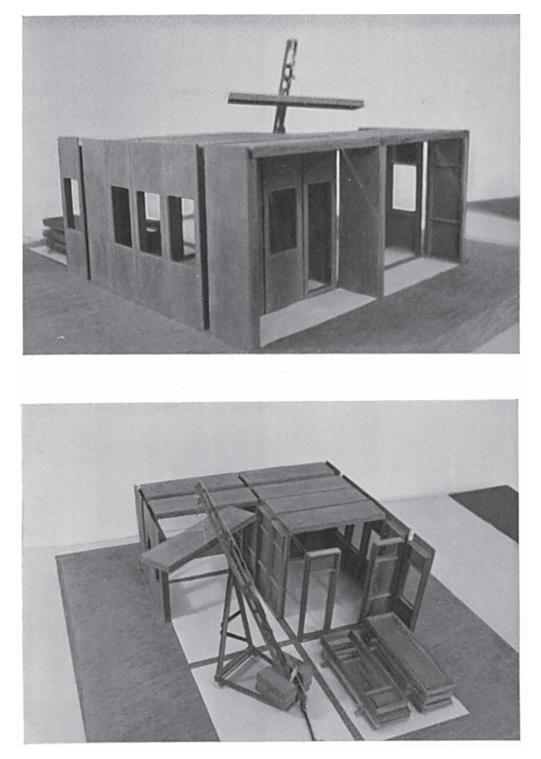


FIGURE 1.5 Single-story (UCOPAN) housing system of prefabricated parts devised for the CMPO. Source: Calcutta Metropolitan Planning Organisation, Basic Development Plan: Calcutta Metropolitan District 1966–1986 (Calcutta: CMPO, 1966).

In the taxonomy sketched out provisionally that follows, I attempt to identify some key formal characteristics of architectural production of the 1960s, all of which privilege process and incompletion as the overarching rationale behind their approach. The taxonomy provided applies as much to the American pseudo-debate between the Greys and the Whites, the diverse output of Team 10, Third World modernists, the proponents of megastructure and metabolist thought, and more avant-garde practitioners such as Yona Friedman and the Situationists alike. In all these projects, the formal investigations specifically reflect a crisis in the architects' growing sense of their professional marginalization in the face of what Parsonian political scientists would come to call "collective agency problems" in the processes of urbanization.³¹ The formal attributes of incompletion here explicitly express a certain contradiction in the temporal imaginary, presenting on the one hand a (utopian) scaling up of architectural scope to reflect these presumptions of *deferred* collective agency, and on the other, a (realist) recognition of the intrinsic fractures in that premise. Incompletion represents as much a claim to epistemological authority as it is haunted by the absence of this authority:

- 1 Conflating Plans and Diagrams: The literal amalgamation of diagrams and plans represented a key device through which architects and planners conflated physical spaces and geography with the thermodynamic field formalisms developed by the economists. Arrows, symbols, legends begin to thicken architectural renderings, loading them with informational ballast that refer not to space or geography but to data, stochastic probabilities, and projections into time.
- 2 Bigness/Phalansterization: The push against "composition," as argued by Woods earlier, expressly read space as a multi-jurisdictional entity. Quite as the economists sought to characterize planning as multi-factoral analyses encompassing multiple jurisdictional terrains, architects play to this technocratic characterization by aggregating, within their projects, multiple types of programmatic usage, such that buildings lose programmatic definition and appear more as relational composites. City and building become one and the same. Larger and larger buildings interiorize all social space, such that public and private behaviors alike come to be "architecturalized" within a planned totality. Postwar architecture resurrects the phalanstery: there is no outside of architecture. Rather, projects emphasize internalized heterogeneity, juxtaposition, interiorized flows.
- 3 *Organicism:* If formal rigidity is deemphasized, there is on the other hand an overelaboration of linkages, connections, articulations. Parts acquire autonomy in relation to wholes; "composition" is dis-privileged in favor of expressing a grammar of relations. Nineteenth-century, Romantic, paradigms of organic and vegetational images rear their head again, most notably in the repurposing of the concept-metaphor "growth." Among architects, the preoccupation with growth and processes leads to the preponderance of two key "logics" of spatial assembly: the "tree-shaped" logic of stems and branches and the "rhizomatic" logic of the so-called "mat building" or, in Woods's terms, the "groundscaper."
- 4 *Sachlichkeit/Brutalism/Primitivism:* As with their interwar precursors, postwar architects and planners internalized the premises of economics as a "science" based on the scarcity of resources. There is an embrace of austerity: architects espouse a bias against ornament and symbolism in favor of built expressions that pare form down to its barest, elementary, essentials, reverting to something like a *sachlich* character. The avowed

opposition to ornament will in fact involve recourse to a very specific kind of ornament: the designedly unfinished roughness of "New Brutalism." Both *sachlichkeit* and Brutalism reflect a shared sensibility of temporal deferral or anteriority: these buildings *await* culture (decoration, symbols, fetishes, commodities, meaning). These coarse, "prime-val" surfaces anticipate societal time, a future supplementation when occupants come to fill out these built receptacles with the everyday rituals of lived existence. Formal desistance thus has as its counterpart the architects' obsessive preoccupation with ethnography and the study of human behavior.

THE FAILURE OF PROCESS/THE PROCESS OF FAILURE

To say that incompletion "emerged" in the mid-1960s, of course, would only mean to say that it emerged in a certain way. If by incompletion we mean simply a certain alertness toward contingency, then this would not be something new: any theory of practice necessarily locates contingency as its central feature, which the practitioner must learn to negotiate. The term design, which owes its origin to theology, also refers to a similar negotiation of contingency. God sculpts the universe from chaos, and it is in this image of creation, a perennially unfinished act whose outcome can never be known, that the arti del disegno will seek to craft itself. In Kant's critical philosophy, incompletion acquires a new synonymteleology—a term that redefines divine eschatology and brings it within the open prerogatives of finite, subjective, judgment. In post-Kantian thought, incompletion consequently takes up its modern avatar in being posited specifically as a mode and model of practice, which is to say it begins to produce real objects and actual effects driven by what we may call the romantic logic of the fragment.³² Research, poetry, the university, museums, bureaucracies, indeed the state itself-all of these will claim to realize what we may call a homeostasis of incompletion, in that their epistemological and censoring powers will be explicitly premised on their commitment toward the continual revisitation, emendation, erasure, rewriting of their actions.³³ In the mid-twentieth century, the management of contingency will define a further set of institutional and epistemological careers, instigating the construction of new machines—computers—as well as a panoply of ersatz knowledge fields, systems science and cybernetics, structural anthropology and linguistics, glimmerings of which shine through the characteristics outlined in the aforementioned taxonomy.

Architects in the mid-1960s inevitably drew on these older, more archaic, strands and contexts. However, I argue that the emphasis on incompletion in this period also manifests a very specific dispensation of state and fiscal prerogatives in this period, a dispensation that can be measured in terms of its effects on the complex downstream interactions of budget-ary outlays, procurement of services, and contractual doctrines. If one looks carefully at the contractual documents and correspondence of projects such as Le Mirail or Ford's Calcutta, a far more prosaic picture emerges as to why incompletion acquires such salience in this period, which has to do with the consultants'—CJW for instance—acute responsivity to *the phase-bound manner in which budgets were allocated*. To read architectural output in this manner does not mean reducing these outputs to economistic criteria. Rather, what I am attempting to highlight here is the tenor of state patronage and the implicitly transactional, unsettled and clientelist character by which various domains of knowledge—the economists, hygienists, statisticians, engineers, accountants, and so on—sought to establish control over these budgetary domains, and with which the architects found themselves in competition.

Certainly the architects knew well which side their state-funded bread was buttered on. Here one only has to read Shadrach Woods's own article on Le Mirail published in the *Washington University Law Review*, much of which was devoted to budgetary breakdowns rather than architectural argument, providing the reader with extensive details as to how subsidies from different governmental bodies were essential for the project.³⁴ In the event, the only portion of the project that would be realized was a "demonstration area," fully paid for by government funds. When further investments failed to appear, the Le Mirail would die on the vine.

Something similar might be said to be occurring with the macroeconomic premises of the Bretton Woods system itself by the end of the 1960s. If Le Mirail and Calcutta projects were "failures," they must therefore be read not as isolated instances but in fact as indices of a larger crisis in an entire global system, an entire way of conceiving and doing projects. Indeed the conceptualization and trajectory of these projects manifest as much the challenges that planning bodies increasingly found themselves confronting by the mid-1960s. As countries piled up foreign exchange deficits from large capital expenditures whose conceptualization remained outside Washington's control, the US Treasury was nonetheless forced to absorb the brunt of these globally accumulating currency deficits. In efforts to reestablish control, outgoing debts to countries began to be weighted with more and more "conditionalities." In 1967, both the United Kingdom and India were subjected to the International Monetary Funds' earliest "Strategic Adjustment Programs," which mandated a massive currency devaluation, producing a deflationary shock that to all intents and purposes put paid to the inflation-based temporal horizon projected by the planners. If in Britain this announced the end of Harold Wilson's "white heat" socialism, both France and India were forced to undertake a so-called "Plan Holiday" and suspend their respective Third Plans (France from 1960-61 and India from 1966-68). The deflationary prescriptions explicitly privileged monetary stability over growth, bringing an end to the high-growth levels of the immediate post-war, sending developed countries into a path of long-term economic stagflation. In France, counter-inflationary policies had already been set underway in November 1964 when the finance ministry began to curtail the powers of the Commissariat Général du Plan by inveighing against government "interference" and "guidelines" affecting the private sector. "By opting for balance of payments equilibrium and monetary stability over physical plan targets, the government in effect repudiated its commitment to genuine economic planning."35 As Valéry Giscard d'Estaing, then France's Minister of Finance and Economic Affairs (1962–1966), put it: "Le plan, c'est l'inflation."³⁶ In the end the Bretton Woods arrangement would be dismantled by the same country that had created it, with Nixon taking the dollar off the fixed-rate mechanism and allowing it to float on global financial markets.

In developing countries, the first tranches of large capital and capital-goods infusions in the 1950s had proved ripe for capture by dominant "interest groups"—ethnic factions, business lobbies, large and medium landowners—whose hold over political parties created new concentrations of power for which the distributional ethos underlying planning, both economic and physical, itself consisted of a threat. The career of the West Indian development economist W. Arthur Lewis over the 1960s offers us a case in point. Lewis's *The Theory of Economic Growth* (1955) had established some of the principal foundations of development economics and modernization theory, its chapters notable for the way in which it introduced non-economic factors—cultural predispositions, the uptake of knowledge paradigms and

ideas, governmental frameworks—as crucial considerations for the proposed new economics.³⁷ Following the book's publication, Lewis would directly involve himself with development programs in Ghana and the Caribbean, a phase of his career that his own biographer would use as a case study of "why visiting economists fail," a theme that would gain increasing prominence in development literature from the late-1960s onward.³⁸ By comparison with the earlier book, Lewis's *Development Planning* (1966), published a decade later, reads as much as an inquest into failure, focusing far more on the manner in which planners, divested of the privileges accorded "neutral" expertise, must learn to negotiate with influential power bases—within and without government—that hold critical sway over economic decision-making.³⁹

In India, following the deflationary shock administered by the 1967 Structural Adjustment Program, the national planners' ability to "choose" and define projects would be likewise curtailed by a powerful combination of *domestic* interests, notably personified in Giscard d'Estaing's counterpart, the fiscally conservative finance minister Morarji Desai, whose powerbase lay in the business lobbies of western India. One ironic outcome of this drastic curtailment of the planners' power would be the derailing of the Ford planning effort in Calcutta itself. After all, Ford's founding objectives in India had broadly comported with American goals of supporting private capital. The crippling recession set in force by the IMF's deflationary shock in 1967 would provide a major impetus for the prevailing of the communist parties in provincial elections held in West Bengal that year, following which Ford's planners would be caught between two counteracting biases: the right's bias against planning *and* the communists' bias against Americans.

Also ironically, one of the strongest obstacles that would emerge for Ford's ambitions in regional planning, as with planning globally, would be the very rights of private property which the Americans were so positively disposed toward, the thicket of rentier-based tenurial relations in both city and rural hinterland. In the end, it was this factor that most got in the way of the planners' ambitions of remaking space and time. Whittlesey, having enthused about Calcutta's slums, would bitterly express his frustrations in his letters home, concerned about its implications for his future career:

The venal bastards.... These Indians are a damn sight smarter than the Americans who put us here.... At present this is a nightmare way beyond the technical and living difficulties.... I cannot rid my mind of this, and I want to get away. And I chastise myself for wanting to get away, but I must. The consequences will not be easy to face in New York either.⁴⁰

As for itself, it would never quite recover from the prolonged deindustrialization on which it had embarked in mid-century.

Something similar can also be said, *mutatis mutandis*, about CJW and *dirigisme* in Toulouse, although unlike Calcutta here the story has to do with rising, not declining, regional wealth. Mayor Bazerque's gambit had depended on a regional vision that tied together statedisbursed *l'aménagement* with urban infrastructural improvements. Rosemary Wakeman has narrated in some detail as to how surrounding towns and *mairies* around Toulouse, driven by similar expectations, mobilized private commercial interests and real estate investors to heavily speculate in land, driving up land values and consequently the costs of Bazerque's grandiose ambitions, which included Le Mirail. Correspondingly, the central government cut down subsidies on state land purchases in a drive to privilege privatized initiatives. Consequently, the projected transport linkages to central Toulouse never materialized. Rather than serve as the centerpiece of a new conurbation, Le Mirail would come to resemble a beached liner, its isolated residents disconnected from the thriving region around them. The prospects of a grocery store within the demonstration area would undercut by a massive *Carrefour* located on the well-traveled highway nearby. By 1975 Le Mirail would leave the city of Toulouse with a debt of 531 million francs.⁴¹

Architects such as Shadrach Woods would deeply internalize these cascading failures of modernist planning around the world, including CJW's, as signaling the marginalization of the architectural profession as such. Upon his return to the United States, Woods would run from pillar to post to obtain a planning commission in New York. "We did not engineer the catastrophe single-handed. We were only representing a stage in the development of the creeping bureaucratic miasma which would have engulfed us."⁴² The architects were not alone in what appeared to be the growing devalidation and dereliction of their epistemic authority. Practically that same year, Wood's thoughts were echoed as if verbatim by the development economist Albert O. Hirschman, "But should [the economist] not have a more important role than one of acting as usher and high-level messenger boy for the people who make the real decisions?"⁴³

In Calcutta, where Ford had strenuously worked to establish an administrative apparatus aimed precisely at sifting through and coordinating interests and approaches, this dereliction would leave a cadre signally befuddled about its own knowledge paradigms. Even as they were stepping off the tarmac, Ford's planners could imagine little as to what they had done wrong or could have done otherwise. Arthur T. Row's *post-hoc*, disconsolate reflections provide us with an epitaph for Ford's Calcutta venture that serve just as well for the pumped-up aspirations of incompletion in general:

How could one disagree? What was wrong with employing a traffic engineer to devise the means for sorting out the traffic; a highway engineer to improve the roads; an urban planner to choose a location for a new bridge; a bridge engineer to design it; sanitary engineers to work out improvements to the water supply, the sewerage and drainage systems; an architect to design housing related to people's ability to pay; a public-housing expert to establish a management system for government housing; an anthropologist to see that the housing reflected the social milieu and the culture of the people for whom it was designed; an architect/engineer to plan a development that mixes residence with work on an accessible site; a demographer to estimate the future population for which these several programs would be planned; an economist who would estimate the future economy and quantify space needs; a fiscal scientist to work out how all these improvements could be paid for; and all this under the direction and coordination of an experienced and able urban planner?⁴⁴

NOTES

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