Global Visions, Local Knowledge, and the Design of Model Communities:
The Centrality of the Postcolonial World in the Historiography of Modernism

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By the fifties, when United Nations and United States specialized agencies brought what Harry Truman called "underdeveloped areas" of the earth to the center of attention, architectural modernism spread well beyond its birthplaces. southward and eastward, following the flow of foreign capital and technical expertise in those directions.[1] Among the architects who aligned modernist visions of social reform with the postwar dreams to secure world peace through growth and development was Constantinos Doxiadis. His firm Doxiadis Associates, established in 1953, collaborated with international funding institutions and national governments to design complexes, infrastructures, urban plans and regional studies in Ghana Greece. India, Iraq, Jordan, Lebanon. Pakistan, Spain, Syria, the Sudan, and Venezuela. By the early 60s, Doxiadis was known as "the world's busiest planner," and his journal *Ekistics*, edited by his close associate Jaqueline Tyrwhitt, was circulating in 94 countries.

Doxiadis defined "Ekistics" as an entirely new field, "the science of human settlements," which aimed to systematize a rational approach to modernization on a worldwide scale. In his countless speeches in academic conferences and development conventions, Doxiadis approximated the rhetoric of development experts to present new categories of global problems — "resource shortage." housing shortage" "poverty," "industrialization" and uncontrolled urbanization — as the justification for exporting aid and expertise to "underdeveloped" countries.[2] The goal was to restructure underdeveloped societies according to the paradigm of the industrialized West, in the name of new causes of equality, democratization, and anti-communism. The drive to acculturate the so-called third world to western values was, of course, a direct result from the bitter ideological divide of the cold war. Yet Ekistics' emphasis on a rational and scientific approach to urbanism rendered its claims with an apolitical authority that helped obscure the specific historical

choices — economic growth and capitalism — that were being advanced through the discourse on international development.
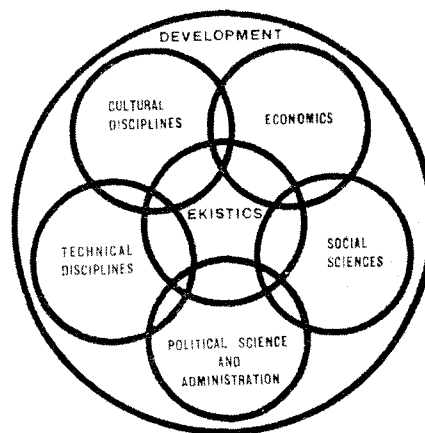

Fig. 1. Doxiadis's diagram, "Ekistics and Development."

Ekistics was founded on a belief in the comprehensive capacity of science to control urbanization, plan industrialization, and manage resources. Its goal was to provide a corrective to earlier modernism, by expanding the scientific basis of architecture and planning. "More science" seemed as the means to *humanize modernism and to better address extra-technological and non-functionalist concerns*. Doxiadis and the multiethnic and multidisciplinary group of architects, planners, and scientists that surrounded him aimed to coordinate the input of economics, geography, sociology, anthropology, political and administrative sciences, and technical sciences, to guard against both arbitrary self-expression and monotonic versions of rationalism, that they associated with interwar modernism. The goal was to respond to "the totality of human needs."[3] "Human settlements" replaced the terms "architecture" and "planning"

in Doxiadis's lexicon, to demarcate an enlarged field of operation.

Ekistics' urban interventions were based on the planning model of "Dynapolis" (one of Doxiadis' many neologisms). Dynapolis was a model of urban growth, control, expansion and efficiency that was directional and cumulative. Its urban core was to expand continually along an axis, to avert congestion, and do away with the permanence and monumentality typically attached to stationary city centers. In formal terms, Dynapolis had affinities to Arturo Soria y Mata's "Linear City," envisioned decades earlier. The business district would grow along an axis controlled by zoning and the siting of public buildings, road systems, and green areas. The residential areas would expand along its flanks, to accommodate the growth of population, cars, and buildings. The residential periphery and the central business district would never burst into each other, even if each would progressively widen. In a diagram, Dynapolis looked like a triangle whose base was constantly advancing towards one direction. The uniformity and regularity of the open-ended city's growing parts was supposed to prevent the confusion and discomfort Doxiadis associated with contemporary cities.
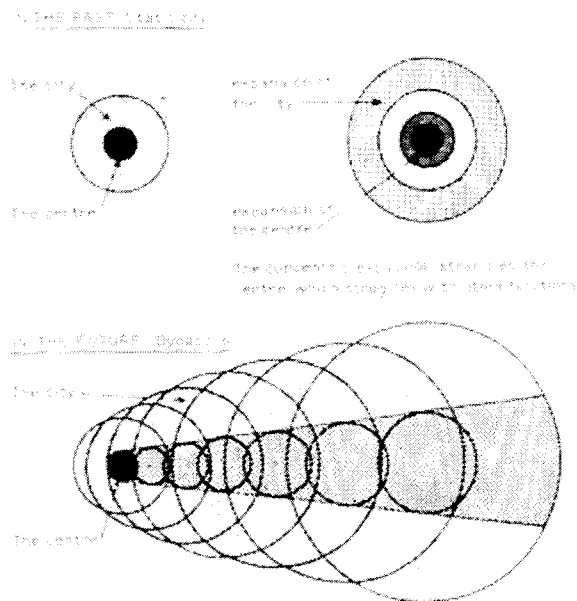

Fig. 2. Dynapolis.

Like the interwar urban visionaries of CIAM, Doxiadis exhibited an aversion for the dark narrow urban centers of old towns. Yet he tried to steer clear of the "extremes" that concentrated on economic criteria, technological solutions, or functionalist preoccupations alone.[4] In describing the "tyranny" of such "extremes," Doxiadis indirectly critiqued CIAM versions of the "functional city," targeting simultaneously leftist-leaning proposals *and* urbanistic versions of Taylor's division of labor.[5] He also critiqued solutions that depended purely on technological fixes, implying criticism of Fuller's aestheticization of technolo-

gy. Yet he held on to modernism's rationality by also dismissing "romantic" regressions to "a simple pastoral life." Rejecting all such paths, dynapolis represented an optimization strategy that offered a comprehensive response to the postwar urban predicament.[6]

What made Dynapolis particularly palatable to post-colonial governments of the time was its promise that it would be more amenable to local cultural preferences. Even if Doxiadis believed that his planning approach embodied scientific truths that could have transnational applicability, he persisted that "there are no solutions of universal value."[7] His firm, Doxiadis promised, would not act like a "magician" planner who "has all the solutions up his sleeve and he pulls them out like rabbits."[8] And this was because Doxiadis Associates interventions would be premised on exhaustive surveys that aimed to "diagnose" each locale's needs and potentials. These surveys, which included studies of the climate, available resources, and social patterns that could be charted on Ekistics' statistical models, were key to compounding the scientific legitimacy of DA's proposals.

Ekistics' apolitical authority was strengthened by the multinational composition of the group, and Doxiadis' own quasi-western identity. A west-educated Greek architect, Doxiadis was seen by both development institutions and third world governments as being "free of the imperialist stigma."[9] Doxiadis himself argued that his own experiences with postwar reconstruction in Greece taught him how to balance the tasks of foreign experts with the tasks of what Charles Abrams called "inperts" — local technicians familiar with the local customs and standards of "underdeveloped" cultures.[10] Buying fully into an essentializing worldview that divided people and cultures into "developed" and "underdeveloped" categories, Doxiadis assumed that his own background could prove the legitimacy of his interventions as a corrective to eurocentric modernism.

This paper focuses on the first manifestation of Dynapolis, namely, Doxiadis Associates' plan for the restructuring of Baghdad, to examine how Ekistics' preoccupations with scientific rationality, order and efficiency, were combined with its effort to calibrate modernism with respect to postcolonical development processes.

Doxiadis Associates' Plan for Baghdad

The plan for Baghdad was part of Doxiadis Associates' big commission to prepare a "development program" for the entire country of Iraq. The firm's client was the Iraq Development Board, which solicited the Athens-based firm to provide massive housing and community facilities in the name of national development on a "rational economic basis."[11] At that time, wealth from the oil industry had created favorable conditions for development in a young nation trying to establish

itself to the outside world, and nurture national pride among its citizens. The capital Baghdad became the site of massive experiments by famous foreign architects invited to propose public buildings, educational, and health facilities.[12] DA was responsible for the overall master plan of the modern capital of the thriving republic.

DA's master plan was intended to direct the future development of Baghdad. The Tigris River, which ran through the existing city, was used as the basis for establishing an imaginary axis "along which the city of Baghdad should develop." This Northwest-Southeast axis determined the orientation of the elongated rectangle that was supposed to define the city's future limits, which covered an area of approximately 500 square kilometers, to accommodate three million people, a population three times larger than that recorded in 1957. Major roads run either parallel or perpendicular to this axis, to provide "an easy connection of the city to the country." Residential sectors were organized according to a rectangular grid. "Green spaces" filled the gaps left between the rectilinear grid and the winding river; they seemed like orthopedic interventions to hold the rectangular grid against the river's organic shape. More "green spaces" were inserted between new residential sectors, to underscore the separation of different neighborhoods. The commercial and business district incorporated the existing center, but its future growth had to abide by the rectilinear logic of the plan. Industries were pushed to the edges of the elongated rectangle that defined the city.[13]

The Master plan's restructuring of the city along functional lines became the basis for DA's proposal for a model
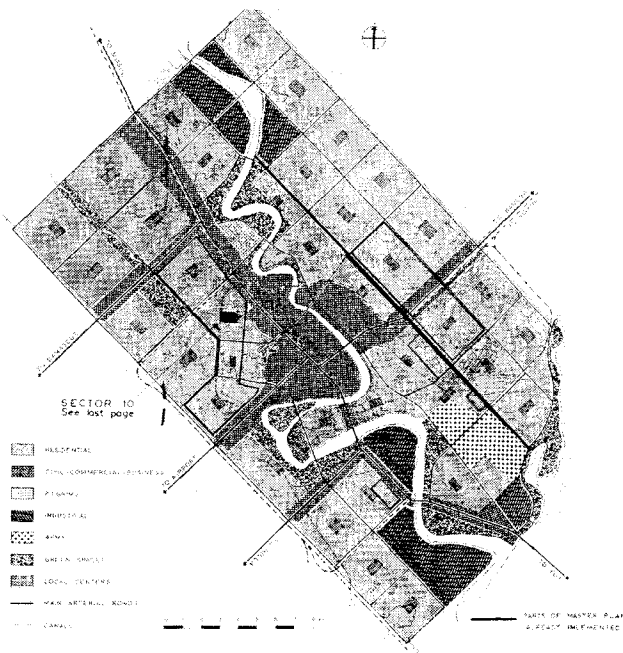

Fig. 3. Baghdad plan.

community in West Baghdad, twenty minutes by car from the existing center of the capital. The "Western Baghdad Development Scheme" provided for administrative, social, educational, health and other community buildings, shopping centers, green areas, coffee houses and mosques. Echoing the social and functionalist logic of the "neighborhood units" of the post-WWII British New Towns, it provided key social facilities within walking distance, favoring pedestrian movement, which, according to Doxiadis's circle of consultants, was key to preserving the human scale.[14] "Outside nuisances" such as the speed of the car, the pollution of machinery, industry, etc. that infringed on "normal life" were pushed outside the visual range of the living and recreation areas.[15]

This logic of functional separation extended to the system of social ordering. The community of western Baghdad was broken down to smaller community scales arranged hierarchically. The smallest was "community class I," constituted by 10-20 families of similar income. A group of 3-7 such communities made a community "class II," also having a homogenous economic status. With few exceptions, house plots were rectangular, and their size depended on income groups. House types also corresponded to the income-based hierarchy, but each house had at least two rooms, a kitchen, a WC and shower, and also space for outdoor living. An agglomeration of class II communities plus an elementary school became a community "class III." Class III communities of different income groups, plus a market and shops, a teahouse and a mosque, could constitute a community "class IV" of one to two thousand families. The hierarchical structure grew even larger, by combining 8-12 such heterogeneous class IV communities into a community "class V" that would have from 120,000 to 240,000 people, and a "clearly marked center, with major shops, hotels, administrative buildings, and religious and entertainment centers."[16]

By integrating varying income groups into a Class IV community, DA aimed to nurture social interaction among diverse groups and create "a healthy community spirit." The goal to create "communities" – a term which substituted "shelters" and "neighborhood units" – was common among housing experts, as an automatic justification of a culturally sensitive plan.[17] As abstract as it was, "community" was supposed to help "the development of social balance amongst the several classes of the citizens."[18] The advantages of "community" were also given an explicit anticommunist spin: A *New York Times* article that praised Doxiadis's Baghdad project, contended that the void and loneliness felt in unsuccessful urban environments was threatening to make urban dwellers "overly susceptible to conversion by Communist agents."[19] The aspiration to create a peaceful "balance" and harmonious "communities" was intimately tied to the anxieties of the cold war. Indeed, DA's promise to nurture "social balance" was readily welcomed at a time when both the pro-Western Iraqi Monarchy and international bodies were nervously hoping that Iraq's transition from
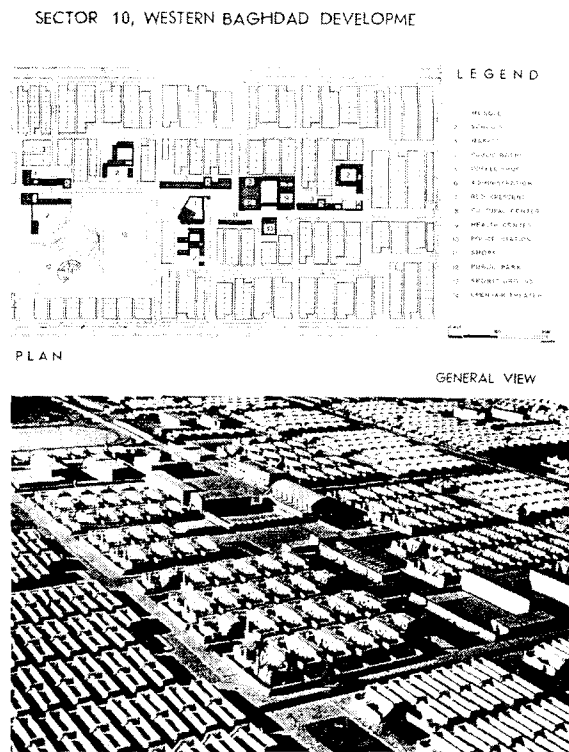
SECTOR 10, WESTERN BAGHDAD DEVELOPME

LEGEND

PLAN

GENERAL VIEW

Fig. 4. Sector 10, Western Baghdad development.

landlord system to a more egalitarian economy would be peaceful; as the *Economist* hinted, development bodies hoped that Iraq would not replicate the experience of Egypt, where a 1952 revolt brought the rise of Gamal Abdel Nasser and his Soviet-allied socialist policies.[20]

DA's attempts to accommodate the local culture within its urban restructuring followed the lead of the French urbanist Michel Ecochard, who pioneered the refashioning of the Athens Charter in the context of third world cities. In his plans for "housing for the greater number" in Morocco's major cities between 1946-52, Ecochard emphasized the accommodations for the "natives," even as he adhered to the universalist precepts of the Athens Charter, and in doing so, he broke away from the city planning policies that dominated the planning of third world cities before the war.[21] Like Ecochard, DA's plans for Baghdad attempted to insert local character into a rational methodology of housing. The provisions for hamams and mosques in each "sector;" the care to keep a safe distance from archaeological monuments (not only in the plans for Baghdad, but also in later plans for Hama and Athens); and the occasional market that reproduced the vault of souqs: all these gestures aimed to accommodate cultural particularity within the modular functional plan.[22]

The transformation of the village dweller to an urban dweller was of particular concern to DA. The firm contemplated the criticism that surrounded the new cities of Brasilia in Brazil and Chandigarh in India. Doxiadis clearly wished his urban plans to

join the company of these "brave" new cities: but he promised that his cities would be more lively, by studying local patterns of living more closely, and also, by doing away with the extravagance of signature designs.[23] Western Baghdad provided a so-called "gossip square" for each group of ten to fifteen attached houses to serve as "a modern substitute for the traditional gathering places of tribal life."[24] The "gossip square" was an idea from Hassan Fathy, the Egyptian architect who joined the Iraq project in 1957, after the invitation of Doxiadis. The name of the square was apparently inspired by an observation that similar points of interest in traditional neighborhoods of Baghdad were places where women would gather.[25] DA embraced the "gossip square" as an element that rendered the plan more appropriate to the local culture – even if it also left deep-rooted gender stereotypes intact. The square was small in scale and informal in character – very different from the huge squares of Chandigarh, with which Le Corbusier tried to substitute crowded bazaars and streets; and it was certainly more attentive to the habits and practices of the local past than the boundless public spaces of Brasilia.

House Types for the Model Community

Local particularity was an important theme in DA's housing designs. The firm began by establishing "research programs" to analyze local materials and methods of construction in Iraqi towns and villages. Influential in this endeavor was Hassan Fathy who led a group of researchers to study "old houses constructed according to tradition" in different parts of Iraq.[26] The team analyzed mud brick construction methods, evaluated the microclimatic benefits of wind catchers, and described the thermal benefits of courtyards. The argument that emerged from these studies was not simply that such building vocabularies and spatial conceptions could help cut construction costs and maximize thermal comfort. (Besides, such an argument about the economic benefits of local construction methods was systematically made by many UN experts at the time). The DA team took the argument beyond matters of "economic efficiency," to associate local building vocabularies with Ekistics' requirements for "social satisfaction," "aesthetic fulfillment," and "psychological satisfaction" of the local population. In analyzing courtyard houses, for example, the team explained the benefits of interior courtyards in proving natural illumination, ventilation, and thermal regulation. Furthermore, the team observed, apart from being a knowledge resource for providing economically and thermally comfortable shelter, courtyard houses also provided privacy and a quiet environment that responded to "psychological" and "cultural" needs. Similarly, the mushrabeya (wooden lattice) provided softer lighting to the interior, as well as privacy, and in general, it was sensitive to local cultural preferences. In short, DA gave a double meaning to regional vernacular vocabularies – or, what they liked to call, "traditional solutions." These were not only a knowledge resource for providing economical and thermally comfortable
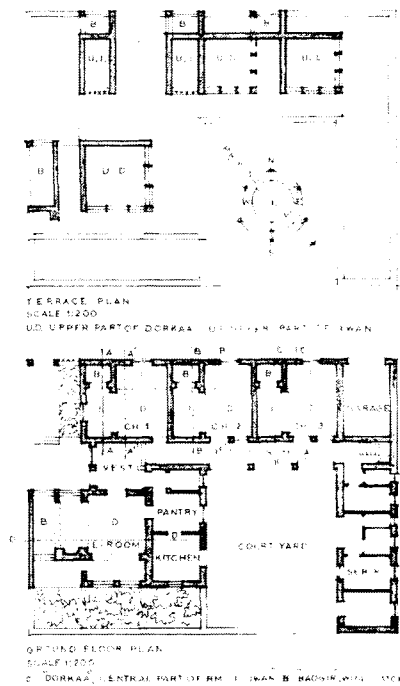
Fig. 5. Studies of courtyard house.

shelter; they also had a psychological and emotional value, and could help fulfill "the totality of human needs."

The main point behind such analyses was that local ways of building and spatial conceptions had a scientific wisdom compatible with Ekistics. The team embraced, in other words, an empiricist understanding of science, an understanding which had also informed earlier modernist appreciations of the vernacular. But the research team also aspired to systematize the scientific soundness of tradition to produce general "lessons" that could be "directly applied to design."[27] To this end, the Ekistics group performed exhaustive analyses of sun movements and prevailing winds at different regions of Iraq, at different times of the year, to determine optimal orientation of buildings and effective configurations of facades. DA also established guidelines for the selection of materials and construction methods, to increase the quality and quantity of housing. They succeeded in addressing the lack of cement by constructing two new cement factories, and by experimenting with mixtures of mud and cement or clay and cement. Much like UNESCO's "field consultants," DA provided remedies to the scarcity of skilled building labor by providing on-the-job training.[28]

DA's goal was to rationalize comprehensive design principles for Iraq, and in fact, for other "hot climates" of the larger bio-climatic region. It is important to note here that even though the Iraq research team began by searching for "the national and local spirit," they quickly generalized their conclusions for "hot

climates." For example, once DA secured a new commission for housing in Pakistan in 1959, their research team expanded the scope of their reports to outline design principles that could apply to both Iraq and Pakistan. The locale therefore, had a fluid geography in the research team's formal search, and cut across ethnic, national, and religious boundaries. Conflating diverse cultural provinces was of course possible as long as definitions of "local" or "cultural" needs remained abstract, and regions were treated as coherent entities.

How then, were "traditional empirical solutions" rationalized in the context of Iraq? After their exhaustive analysis, the DA team outlined a series of guidelines that conformed to Ekistics' preoccupation with scientific neutrality and comprehensiveness: "use thick walls and roof (to increase their thermal capacity); "throw shade on the walls and roof (so that they do not emit heat to the interior)"; "provide small apertures to the windward side and large apertures to the leeward side, opening to semi-enclosed spaces" (to draw the maximum amount of air inside through suction created by sub-pressure); "select a suitable arrangement of rooms so that the air may reach all alike" (to maximize cooling by ventilation).[29]

In abstracting general "lessons" from regional building vocabularies, DA guidelines compartmentalized them into elements that could be utilized in mass production. In the design of house types for Baghdad, DA pushed the courtyards of dwellings to the side of the house, or even to the "back" to save space and maximize the repetition of housing modules on the rectilinear plan. Ultimately, the final plans for Baghdad were dominated by a formal preference for uniformity and regularity. Overhangs shaped to provide maximum shading for windows; screens configured to increase wind pressure and provide privacy; and abstracted versions of a courtyard: these elements were all transported into standardized housing modules. Their historical and social context vanished in the process, and they appeared as relics of the past. In other words, locally inspired forms and methods were utilized only to the extent that they would not become an obstacle to the grand formal and social order envisioned by Ekistics' Dynapolis. Ultimately, the Ekistics expert was to judge which aspects of the local "tradition" were worth keeping.

The greatest irony in DA's final proposal for Iraq lies in their conception of "local culture." Doxiadis Associates' unified theory that moved from an urban whole to the individual area, from "macro" to "micro," and from global to national imperatives imposed a one-way hierarchical relationship that reduced each locale to a mere piece in a bigger managerial puzzle.[30] The dual imperative for economy of means and cultural malleability was ultimately incorporated in the meta-rationality of Ekistics' analyses of income groups, spatial distributions, volumes of traffic, statistical standards of comfort minimums, and the aesthetic imperative of standardization: these were the parameters of the urban environment. In the meantime, the

autochthonous culture, delimited by climate, materials labor, or quantifiable habitation patterns, turned into an object of expert control.

Doxiadis's notion of Dynapolis was later tested in Homs, and Hama. Syria, in Islamabad. Pakistan, and beyond. It was slightly modified in each case, but it remained committed to its main goal, to revise the technocratic preoccupations of early modernist urbanism (Le Corbusier and the Athens Charter in particular). Even as it failed to recognize the fluid realities of culture, and viewed "tradition" and cultural particularity through the optics of the development discourse (and its linear view of progress). Ekistics was formative in connecting the post-WWII rethinking of modernism with postcolonial modernization programs.

This brief history of Ekistics demonstrates the significance of the West's geopolitical margins (in this case, the modernization of Baghdad) in shaping postwar debates on "science," "technology" and the "development." Despite the pitfalls of its technocratic postures of neutrality, Ekistics introduced new questions about modernism, and brought a sharp focus on the postcolonial world's modern experience. Furthermore, this brief history of Ekistics is significant not only because it complicates the historiography of modern architecture, but also because it can cast today's politics of development and globalization in a broader perspective. As development discourses and institutions proliferate today, to shape international policies, and also to permeate architectural culture in new forms, the story of Ekistics can serve as a reminder to both historians and architects that, such paths are well traveled.

NOTES

[1] Truman's inaugural address in January 4th. 1949 inscribed development in the agenda of urgent world business, by calling for a "worldwide effort for the achievement of peace, plenty, and freedom". *Preamble to the Charter of the United Nations*, New York: UN Office of Public Information. 1968.

[2] Constantinos Doxiadis. "Architecture in Evolution: Royal Institute of British Architects Annual Discourse." *R.I.B.A Journal* (Sept.-Oct. 1960): 3-22.

[3] "Ekistics . . . co-ordinates economics, social sciences, political and administrative sciences, technology and aesthetics into a coherent whole, and leads to the creation of a new type of human habitat. To work on such a habitat, the architect must now enrich his knowledge so as to be able to cover the related fields and co-operate with the community developer, the urbanist, the planner, the economist, the geographer and the social scientist as a member of a single team." Constantinos Doxiadis, *Architecture in Transition* (London: Hutchison and Co., 1963). 96. See also Doxiadis, "The Science of Ekistics," *Architectoniki* (Jan.-Feb. 1959): 13-66.

[4] Constantinos Doxiadis, *Ecumenopolis, The Settlement of the Future* (Athens Center of Ekistics Publication Series 1, 1967), 157-163. See also Doxiadis, *Dynapolis. The City of the Future* (Athens: Doxiadis Associates, 1960); Doxiadis, *Architecture in Transition* (London: Hutchison and Co., 1963).

[5] For CIAM debates on the "functional city" see Eric Mumford, *The CIAM Discourse on Urbanism, 1928-1960* (Cambridge, MA: The MIT Press, 2000).

[6] Doxiadis, *Ecumenopolis, The Settlement of the Future.* 161-63, and 163-4. For the larger architectural climate in which Ekistics operated see Mark Wigley, "Network Fever." *Grey Room* 4 (Summer 2001): 82-122.

[7] Doxiadis. "The Rising Tide and the Planner." *Ekistics* 7:39 (January 1959): 4-10.

[8] Ibid.

[9] Christopher Rand. "The Ekistic World." *The New Yorker* (May 11, 1963): 49-87.

[10] Charles Abrams, *Housing in the Modern World* (London: Faber, 1963). 103-4.

[11] DA, "Iraq Housing Program." Pamphlet No. 5 (September 1959).

[12] Christian Science Monitor. "Architects Build Modern Baghdad." Second Section. April 2, 1958.

[13] Doxiadis Associates, "The Master Plan of Baghdad." *DA Monthly Bulletin* 9 (January 1960).

[14] Ibid., 7.

[15] See Jaqueline Tyrwhitt, "Outline of Background Paper for Expert Group Meeting on Planning and development of Satellite and New Towns. 1964" (Harvard GSD Library Documents).

[16] Doxiadis. "Architecture, Planning and Ekistics." *Ekistics* 7:44 (June 59).

[17] United Nations, Economic and Social Council. Social commission. "Report on Concepts and Principles of community development and recommendations on further practical measures to be taken by international organizations." E/CN.5/325, 12 March 1957.

[18] Doxiadis Associates, "Iraq Housing Program." *DA Pamphlet* 5. September 1959.

[19] *The New York Times.* "Tribal Housing in Iraq." May 14, 1958.

[20] *The Economist* CLXXXIII. 5939. "Development in Iraq: Special Survey" (June 22, 1957) 14 page supplement after p. 1076. See also Charles Issawi. "Economic Revolution in the Middle East." *Ekistics* 4:25 (October 1957): 99-100.

[21] Cohen. "The Moroccan Group and the theme of the Habitat." 59-60. Ecochard had been the first to emphasize the particularity of problems faced by rural population moving into the city and leaving behind familiar lifestyles, and the community support system.

[22] Doxiadis Associates, "Iraq Housing Program." *DA Pamphlet* 5, September 1959. See also, DA. *The Housing Program of Iraq* (Government of Iraq, Ministry of Development. 1959); *Housing in Baghdad* (Government of Iraq, Ministry of Development); *Experimental Housing Projects* (Government of Iraq, Ministry of Development): "The Master Plan of Baghdad." *DA Monthly Bulletin* 9 (January 1960); and *Architectoniki*, "The National Housing Program of Iraq." *Architectoniki* 13 (January-February 1959): 42-46.

[23] Doxiadis. "The Rising Tide of the Planner." 1959.

[24] *The New York Times.* "Tribal housing in Iraq."

[25] Doxiadis, "Abstract of the third part of a lecture series given at the Massachusetts Institute of Technology. Spring 1957." Reprinted in *Ekistics* 7:42 (April 1959). 295.

[26] Fathy, Deimezis, Kyriou & Marinos, "Thermal Comfort." Doxiadis Associates documents (April 15, 1958):1-2, quotation on 1. See also, Hassan Fathy, "Heat Protection." Doxiadis Associates documents (April 19, 1958):1-5; Fathy and Marinos. "Applications of Ideas on Thermal Comfort." Doxiadis Associates documents, May 2, 1958.

[27] Ibid.

[28] UNESCO. "Report of the Reconstruction and Rehabilitation Commission." UNESCO c/11/Rev. 1, 22 (January 1947): 6.

[29] Fathy, Deimezis, Kyriou, Marinos, "Thermal Comfort."

[30] See James Scott. *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven: Yale University Press, 1998); Arturo Escobar, *Encountering Development: The Making and Unmaking of the Third World* (Princeton: Princeton University Press, 1995); Wolfgang. Sachs, ed., *The Development Dictionary: A guide to Knowledge as Power* (London: Zed Books, 1992).