War II. The general findings are not novel. For at least a full century, on a national scale the concentration of population in metropolitan areas has been increasing while at the same time the population within the metropolitan areas has been moving outward toward the suburban fringes. Three-quarters of the American population now reside within a land area representing only 1½ percent of the total. In the last generation, a centrifugal process of resettlement has created sharp divisions of age, race, and income among the 150 million metropolitan Americans as the young, white, affluent segments have moved out to the suburbs.

Who builds the metropolis? Sam B. Warner, Jr., asked that question in *Streetcar Suburbs* (1962), a study of the process of growth in Boston in the 19th century. Warner's answer, "The . . . metropolis is the product of hundreds of thousands of separate decisions," is echoed and elaborated by Clawson and his colleagues at Resources for the Future. As they put it, "The decision-making process in urban expansion is highly complex and diverse. It is incredibly fragmented and diffused among a wide variety and large number of private individuals and organizations and among many public agencies at each of the major levels of government." What follows is a rich description and analysis, constituting one-third of the book, of the characteristics of the decision-making process, the chief actors in it, the market for suburban land, and the role of public agencies and services.

Clawson's concise appraisal offers a balanced view: The process has great vitality and has produced a lot of good housing and pleasant neighborhoods. Although diffuse decisions sometimes produce inconsistent results, the process avoids massive errors. On the other hand, housing costs appear to have been higher than was perhaps necessary. Land has been consumed lavishly, with undistinguished esthetic results. Most distressing is the fact that fully half the population—the poorer half—is not served at all by high-cost suburban growth. The strengths and weaknesses of the process are shown to be consequences of the diffuseness of decision-making and the inexorable force of the land market.

A "case study" of the Northeastern Urban Complex provides a more detailed example of the forces at work in urban expansion. Ideas that are treated generally and within a national scope elsewhere in the study are quantified and made particular in this part. A detailed analysis of the region, at a much finer grain than is usually found in such work, reinforces the general note of caution to the effect that the real story of urban America lies in the variegated unfolding of local action, that sweeping generalizations about urban trends on a national scale may mislead as much as they inform.

The book concludes with a look at the future. Not surprisingly, Clawson finds that the future of the American city will greatly resemble its past if there is no major effort to change the process of development. How might that be done? The concluding chapter cites some possibilities for change, such as improving the land market, reforming local government, providing housing for the poor. It is no criticism of this book to say that these ideas are insufficient to induce great confidence in the nation's ability to alter the flow of a process so integral to the lives and interests of the broadest segment of our population.

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Environmental Physiology

The Temperature and Water Relations of Reptiles. J. L. CLOUDSLEY-THOMPSON. Merrow, Watford, Herts., England, 1971 (U.S. distributor, Bonn Industries, Metuchen, N.J.). vi, 160 pp. + plates. $8. Merrow Technical Library, Zoology.

The ancestral amphibians and reptiles were the earliest terrestrial tetrapods; they invaded the land and gradually shifted from the shores of lakes and swamps to occupy the interior of the continents. Invasion required specialization to resist the effect of gravity, the unbuffered incidence of solar radiation and celestial cooling, and the more limited availability of water. Water was required for maintenance of the internal milieu, removal of waste products, and conditioning of exchange surfaces. All the true invaders of the land have long since become extinct, and the surviving amphibians have adapted for a quite different mode of life history. Hence one must look to reptiles for clues to the diverse solutions that ultimately made terrestriality successful.

There was a long time before physiologists realized that interesting answers might indeed be obtained from studying reptiles, and even longer before it was seen that reptiles might incorporate basically different solutions from those seen in most mammals and birds. The last three decades have led to an explosion of information regarding these animals. The diversity of thermoregulatory patterns, the different solutions arrived at by different species and in different environments, and the critical importance of the behavioral state of the animal have been documented multiple times; we stand at the beginning of a true comparative physiology. This small book addressed to the informed undergraduate deals with problems of thermal (*not* temperature as in the title) and water relations, the latter topic occupying less than 20 percent of the whole. The treatment is by examples and is more ecologically than physiologically oriented. Though much literature, particularly some later references, has been omitted, the text gives an excellent conception of the diversity of solutions developed by reptiles and the diversity of approaches used by ecologists and physiological ecologists studying them.

The volume does show a certain lack of synthesis (for a more synthetic approach see J. R. Templeton's chapter in G. C. Whittow's *The Comparative Physiology of Thermoregulation*, Academic Press, 1970). When two species are stated to differ one is left with the question whether the difference is due to experimental approach, to interspecies variation, or to ecological adaptation. There might also be a more critical approach to questionable data or to methods that should not be used; a small addendum pointing out approaches to further study and cautions needed in experimentation might well have been desirable. The proofreading, particularly of Latin names, leaves a bit to be desired, as does the subject index, which is much shorter than those of author and species names. Perhaps the greatest strength of this volume is in its extensive use of examples, particularly from tropical (mainly African) situations. Here the author is closest to his own research, and this competence definitely shows through. This view makes the volume a reference that may be as useful for specialists as for the audience to whom it is addressed.

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