

a systematic survey of the present state of electrochemistry as a whole, and a reader who refers to it with this hope will be disappointed. Printing and illustration are excellent, but there is no index.

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Environment of Leicester

Leicester and its Region. Edited by N. Pye. Pp. xxi+603+21 plates. (Leicester University: Leicester, September 1972.) (Published for the Local Committee of the British Association.) £6.

FOR many years the annual meetings of the British Association for the Advancement of Science have been marked by the publication of a special volume dealing in a scholarly way with many facets of the host city and its surrounding region. This has usually been promoted by a special local committee in which "town" and "gown" have collaborated in an exemplary fashion, and the general editor has usually been the University's Professor of Geography. The Leicester meeting of 1972 continued these traditions in a most impressive way by the publication of a superb volume containing 600 pages, with ninety-three figures, forty-eight tables and over twenty plates, which, in both size and scholarship, aptly matches the large volume on Nottingham and its region produced for the annual meeting of the Association in 1966. Thus, after a 6-year wait, Leicester has drawn even with its traditional East Midland rival.

It is difficult, of course, if not impossible, to review a work of such length and variety in a conventional way. One can only say that Professor Pye, the editor, and his thirty-five contributors, drawn predominantly from the academic community, but also including representatives of local government and other walks of life, have fulfilled their task with great credit. Each chapter is an up-to-date, authoritative statement on a particular aspect of the city and county that in most cases draws skilfully on the published literature while at the same time offering an additional contribution to our knowledge, whether through fact or commentary.

The book falls into several main sections. After an introduction by Professor Pye, part 1 deals with the physical background (geology; geomorphology; weather and climate; soils; flora and vegetation; fauna; and nature conservation), and part 2 traces the area's historical development (prehistoric and Roman settlement; Saxon and Danish Leicestershire; Leicestershire 1100-1800; the evolution of Leicester 1066-1835; and Leicester and Leicestershire 1835-1971). Part 3 is devoted to economic structure (communications and transport; agriculture; extractive

industries; foundation of the modern industrial pattern; the modern industrial scene; science, technology and local industries; patterns of population change; and urban structure of Leicester). Finally, part 4 deals with social development (schools in Leicester; education in Leicestershire; further and higher education; the development of medicine and social services; the arts; vernacular architecture; and the planning of the Leicester of the future).

While the volume is intended to offer a study of a particular English industrial city and its hinterland, the specific experience and characteristics of Leicester and Leicestershire nevertheless almost constitute a "model" case. Here in the very heart of England we have a county still firmly dominated by its ancient capital, which is surrounded by a number of subordinate urban centres with their own local spheres of influence—the epitome of a geometrically-arranged hierarchy of "central places". The physical environment includes a representative sample from the geological time scale, including both the Pre-Cambrian and the Pleistocene. There is a fairly wide range of mineral resources, including coal, ironstone, roadstone and brick earths. Leicester itself exhibits tangible evidence of all the major phases of English urban development, including the remains of the Roman town of *Ratae Coritanorum*, mediaeval churches and Guildhall, Georgian town houses, Victorian working-class factory districts, and the suburban sprawl of the present century. (It is scarcely surprising that the local College of Education has sponsored the idea of "town trails" in Leicester.) Modern Leicester is large enough to exhibit the well-differentiated commercial, industrial and residential neighbourhoods so typical of Western cities (and thus incidentally lends itself to factor analysis and other techniques of the modern urban analyst). The city's industrial evolution shows the typical change from a varied structure of numerous small handicrafts and trades to reliance on one or two dominant manufacturing industries, in this case hosiery and footwear, that began as domestic activities and became converted to a steam-powered factory basis after the middle of the nineteenth century. The twentieth century has dealt kindly with Leicester, so that, unlike the experience of some northern industrial towns, the spontaneous growth of new industries, dominated by engineering, has diversified a potentially vulnerable industrial structure and taken up the slack caused by the falling or static labour requirements of hosiery and footwear.

While there is so much that is typical of the country as a whole, there are,

however, important achievements and innovations to Leicestershire's own credit. For example, modern livestock breeding was pioneered by Robert Bakewell. The hiring of a special train from Leicester to Loughborough by Thomas Cook marked the advent of the modern tourist movement. Frank Whittle nurtured his jet engine in local factories during the late 1930s and early 1940s. And, quite understandably, important developments took place here in the technology of hosiery and footwear manufacture. More recently, the "Leicestershire Plan" for education, leading to the establishment of separate upper schools for all pupils over 14, and the "Leicester Traffic Plan", involving the segregation of pedestrians and vehicles and the shielding of the city centre from the motor car, have both achieved fame for their bold imagination.

Leicester and its Region will be used chiefly as a valuable reference book for the upper forms of schools and for institutions of higher education, especially where geography, local history and environmental studies are concerned. In that role it will, over many years to come, handsomely vindicate the labours of all those who have contributed to it.

R. H. OSBORNE

Catecholamines

Handbook of Experimental Pharmacology/Handbuch der Experimentellen Pharmakologie. Edited by H. Blaschko and E. Muscholl. Pp. 1,054. (Springer: New York and Berlin, 1972.) DM396; \$125.60.

THIS tome on the catecholamines is volume 33 of the new version of the famous Heffter's *Handbook of Experimental Pharmacology*. The volume has 1,054 pages and its weight makes "Handbook" a curious misnomer. But the weight is justified by the contents. The enormous increase in catecholamine research represented here is due not only to the universality of their distribution and effects but also because the analysis of their mode of action led to the discovery of the cyclic AMP system which is now recognized as a common mediator of the actions of many other hormones as well. Appropriately, therefore, a masterly account of the effects of catecholamines on metabolism is given in a central chapter by Jean Himms-Hagen, much of which summarizes present knowledge on the effects of catecholamines on adenylyl cyclases and on enzymic effects of cyclic AMP.

All chapters are of high quality in both content and style, as would be expected from the well-selected experts who wrote them. It would be invidious to select any particular chapter for praise, but to someone working on