

Preface to the first edition

Biogeography is the 'Cinderella' of geography. It is still a relatively neglected and underdeveloped field of study at both school and university, despite the considerable lip-service that has been paid to its significance. Many have drawn attention to its value in providing (within the framework of the early formulated and recently 'rediscovered' ecosystem concept) an integrated holistic approach to environmental studies. Some have accorded it the distinction of being the 'vital' link between physical and human geography. Others have enthusiastically advocated (without necessarily demonstrating) its potential as a means of unifying a subject whose peripheral organs often seem to be growing at a rate greater than that of its body! That biogeography is slowly gaining greater recognition is unquestionable. However, there are still all too few British or American universities where, in general physical geography courses, it receives or attracts the same attention as either climatology or geomorphology – and fewer still where it can be pursued at a more advanced Honours level. In the latter cases instruction is often relegated to departments of biology, botany, zoology or pedology. Those who go so far as to profess biogeography are 'rare', indeed some would say 'odd' species. English textbooks on the subject, written by geographers, can be counted on one hand. A large proportion of its most elementary data must be distilled from non-geographical and often highly specialised and technical biological sources. And developments in the latter have long outstripped those in biogeography.

There are good reasons if not necessarily valid excuses for this state of affairs. First, because of the range of phenomena with which the biographer is faced, his field of study is less amenable to isolation and systematisation than other branches of physical geography, such as climatology, hydrology or geomorphology. Biogeography is not easy to define or delimit precisely; and the distinction between it and the closely related subject of ecology often tends to be more a function of scale and emphasis than of content or method. Second, the majority of teachers and students of geography, whether at school or university, know much less about the nature and scope of biogeography than about practically any other aspect of their subject. Opportunities to combine a study of biology and geography

are limited. Unfamiliarity (exacerbated by a high degree of urbanisation) with even the most common plants has tended to create a psychological barrier which makes the average geography student chary of involving him- or herself too deeply in a field which requires the acquisition of a whole lot of new and apparently highly 'technical' terms (among which Latin names seem to be the most daunting!) and concepts. And the continuing emphasis in many, particularly school, texts on 'explanatory' descriptions of the vegetation or soils of the world, often completely divorced from any concrete terms of reference, has done little to overcome this 'built-in' resistance and to stimulate interest in the subject.

This book is the product of a long period of 'experimentation' in the teaching of biogeography at various levels to university students, many of whom had no previous training in biology, or for that matter in any of the physical sciences. Its aim is twofold. The first is to summarise and explain (in a way which it is hoped will be comprehensive and palatable to teachers and students at sixth form and university levels) those biological processes and concepts which the author considers basic to the understanding of the principal characteristics of, and the complex interrelationships within, the 'organic world' or 'biosphere'. In the interests of clarity an attempt has been made to cut a path through the terminology jungle of ecology and to be selective, indeed as sparing as possible, in the use of uncommon and/or exotic plant and animal names. The second is to bring together the bases and aspects of biogeography which at present can only be obtained from a great number of widely scattered sources and, in doing so, to bridge the gap between the earlier traditional zonal study of vegetation and soil and modern developments, particularly in plant ecology. The theme is that of organic resources, and the reciprocal relationship between these and man. Throughout, the emphasis is on plants, as the primary food producers which form the essential link between man and his physical environment. The first half of the book is concerned with a systematic analysis of the effect of environmental (ecological) factors – climate, soil, biological competition, animals and man on the functioning, evolution and adaptation, and distribution of plants. The second half deals with the nature of vegetation and a consideration of the principal characteristics of the structure and function of the major types of ecosystems – marine, forest, grassland and desert – and the potentialities and problems of their particular organic resources for use by man through time.

It is hoped that this book will go some way to answering the perennial *cri de cœur* of the aspiring student of biogeography for a basic textbook which would provide a starting-point and a guide to the highly ramified highways and byways of a vast and complex field. In its compilation the author has drawn on and selected from a wide variety of sources. However, it was decided in the interest of readability to omit numbered references in the text. The lists of references are not, nor were they intended to be, comprehensive. They do, however, include all those sources on which each chapter has been based, and they were selected as those most valuable and relevant to further elucidation and a deeper study of the subjects under consideration.

Finally the author would like to acknowledge her indebtedness to those generations of geography students at the Universities of Edinburgh and Glasgow

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