unfamiliar with the basic principles of the relation between atomic emission and absorption spectra on the one hand and abundances, pressure, temperature, and excitation mechanisms on the other. In a following chapter, Aller gives several recent universal abundance compilations (which he has modified) and compares them with a universal compilation based primarily on stellar data. Discrepancies are discussed in terms of measurement difficulties and source material differences. In a final chapter the basic nucleogenic theories of B^2FH and Cameron are outlined without the most recent bifurcations.

Because of rapid change, it is difficult to write a useful book in this field. Aller has used the opportunity offered by the room in a book to present the entire subject with superior organization and clarity. As a result, his work may outlast the rapid obsolescence of the abundance data which he presents and may be welcome and useful for several years (as it is now) as a supplementary text in the borderline subjects of cosmology and geochemistry.

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Scientific Go-between

The Human Use of the Earth. Philip Wagner. Free Press, Glencoe, Ill., 1960. ix + 270 pp. Illus. $6.

Science may be a unitary effort of men to gain mastery over their world and themselves, but the various sciences are more often like camps fortified against each other and suspicious of communications across the no-man's-land that lies between them. We may therefore thank our common totemic ancestors for an intellectual broker like Philip Wagner who, as a human geographer, is committed to wandering between camps. Conceptual integration is not an easy task, and the resultant combinations sometimes exhibit signs of strain; but it is this effort at synthesis, above all, that makes this book in "both geographical and ecological" aspects, such attractive reading. To bring order out of chaos, the author has employed the scientifically economical (if hazardous) tool of typology, and the book may best be characterized as a set of typologies, related so as to produce a cognitive map of adjacent scientific territories.

Man's symbiotic ties with other organisms (plants, animals, and other men) may be categorized as either obligate or facultative (chapter 1). These two categories are then combined with a typology of economies derived from Polanyi, to obtain a fivefold scheme of economies, seen as symbiotic types: (i) obligate subsistence with sporadic relations with outsiders; (ii) obligate subsistence with facultative arrangements for reciprocity; (iii) obligate subsistence with facultative redistribution; (iv) obligate subsistence with facultative market relations; (v*a*) obligate redistribution with facultative marketing (the Soviet Union); and (v*b*) obligate marketing with facultative redistribution (the United States). Chapter 6 presents a taxonomy of artifical objects made by man, in which there is implicit a progression from simple elements to automatic devices and a concomitant increase in man's power over nature. This taxonomy is linked, via a chapter on factors in the spatial structuring of such man-made objects, to a typology of livelihood types and food-getting forms (chapter 8). Wagner has, wisely perhaps, refrained from integrating this typology with his economic types, but the last two livelihood types (peasantry, commerce) appear to articulate with types iv to v*b*, above, and with the categories "consumers' economy" and "producers' economy" discussed in chapter 9. Chapters 3 and 4 are not essential to this chain of considerations, but they serve to acquaint the "earth-scientist" with the conceptual trappings of his hostile friends in the social science camp. From reading this book, I came away with the feeling that there *is* a science called human geography; this after some initial doubt.

Terminological quibbles should not be allowed to detract from the high quality of this work, but I arched my eyebrows at the use of "consumers' economy" and "producers' economy" and—especially—at the use of "capital" for all artificial things made by man. On the other hand, why does a geographer put the Totonac in Oaxaca and the Arapesh in southeastern New Guinea (page 44)? Relocation seems urgent.

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Arbiter of Mankind's Goals

Toward a Science of Mankind. Laura Thompson. McGraw-Hill, New York, 1961. xxvii + 276 pp. $4.95.

Any progress in applying what is known of man and his behavior to the solution of social tensions and conflicts deserves attention. During the past three decades a handful of anthropologists, most of them in England, Mexico, and the United States, have attempted to formulate practical programs for action in a variety of situations such as colonial administration, American Indian health, conservation of economic resources, and industrial personnel problems. In general, the proposals have met with skepticism from administrators, but a few successes have encouraged the "applied anthropologists" to continue their efforts.

Laura Thompson reviews the changes in anthropology's orientation that have permitted the inclusion of these aims, which represent a marked departure from former goals (and for many in the discipline, from their current goals). Instead of seeking further understanding of man and his behavior, Thompson argues that we know enough now to tackle the problems of "how to improve the welfare of whole communities and of . . . tribes, nations, and international groupings," and "the formulation of adequate norms or standards for the advancement of community welfare and for the development of community-oriented government administration." Her approach is eclectic, drawing on the insights and techniques of numerous disciplines, such as physiology, psychology, animal ecology, and conservation, as well as the social sciences. She is liberal with quotations and includes several case histories from her own previously published work; except for too frequent lapses into jargon, the book is stimulatingly written and will interest a broad spectrum of readers.

The major part of the book is devoted to proposing and explaining the "social-action research approach" that the author believes will permit anthropologists to direct human activities toward "scientifically based ideal goals." This is an extraordinarily optimistic attitude, proposing to solve all the basic problems of mankind. Optimism should not be discounted, and it is needed in any approach to the world's crises in human relationships. But there are risks