tion after Darwin is anomalous and will not serve the needs of either the specialist or the general reader. The first two volumes, on the other hand, can stand alone as technical essays, but something quite intangible and very useful is added to their content when the panel discussions are read as an introduction to or a survey of the field. The very attenuated comments of the panelists focus ideas that are easily missed in the mass of detail in the technical papers, and the panel's generalities are shown to be derived from a much more diverse set of ideas than is implied.

Summary of the Celebration

When all three volumes are taken together, one's perspective is improved. There is still only brief consideration of the origin of life, but the evolution of life, so neatly and precisely sketched by the panel, is shown to be an immensely exciting, growing area of research. The bare outline of man as an organism becomes recognizable, in the second volume, as descriptive and comparative functional biology of the highest order. The diverse approaches used in considering the evolution of the mind were quite clearly covered in the papers, but the panel made it clear that the approaches must sometime converge. Finally, the logical essays of the second volume make the disunity of the panel on social and cultural evolution appear to be the result of an almost ritualistic defense against early Darwinian excesses, which is now giving way in the face of more sophisticated attempts at generalization.

The foolhardy attempt to summarize 1002 pages of technical papers with 174 pages of panel transcripts resulted in a good survey that can be usefully employed in conjunction with the first two volumes. And there was still time to consider the human implications of evolution which are of such great concern to us all.

It is a measure of considerable enthusiasm when I must agree with dust-jacket prose and say *Evolution after Darwin* is, in fact, "the most comprehensive and intensive examination ever made of the impact of Darwin's ideas." The three volumes do just honor to the occasion of the Darwin Centennial Celebration and to the thinking that Charles Darwin set in train.

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Atlas of European Birds. K. H. Voous. Nelson, New York, 1960. 284 pp. Illus. $15.

The title of this book is literally correct in the old sense of the word *atlas*; it is a volume of maps, one for each of the 419 species of European birds breeding west of the Ural Mountains. Each map is accompanied by a closely written statement that includes the ancestral or inferred faunal placement of the species: for example, the black-winged kite, *Elanus caeruleus*, is given as "in Europe an Ethiopian distribution element," and the white-tailed eagle, *Haliaeetus albicilla*, is given as "palearctic"; this statement includes the geographic range, habitat, chief food, nesting habitat, and movements (including migration). Voous recognizes 24 faunal types—the arctic, holarctic, Siberian-Canadian, Siberian, Chinese-Manchurian, Palearctic, Nearctic, North Atlantic, European, European-Turkestanian, Turkestanian-Mediterranean, Mediterranean, Sarmatic (belonging to the coastal fauna that, in late Tertiary and Pleistocene time, inhabited the shallow, brackish, or salt Sarmatic inland sea, a continuation of the eastern Mediterranean stretching over the present Hungarian Plain, east to the Caspian and Aral Seas), Turkestanian, Paleoxeric, Paleo-xeromontane, Paleomontane, Tibetan, Mongollian-Tibetan, Ethiopian, Indian-African, Of the Old World, Antarctic, and Cosmopolitan. The present placement of five species is given as "unknown," since they provide no indication of the geographical origin of the five: the Manx and the North Atlantic shearwater, the Gannet, the Greater Flamingo, and the Black-winged Kite.

The maps, which are pseudo-Mercator projections, have the breeding range of each species marked in red. Most of the maps extend from the equator to the North Pole, but some—for the Caspian tern, the roseate tern, and others—extend to the South Pole. Two to four maps are placed on a page; this makes it easy to compare the distribution of related species. Thus, on the first page there are four maps (one for each species of the loon), and the specific differences in ranges are immediately comprehensible, with a directness not possible from using the text alone.

The photographs, illustrating 355 of the 419 species, are excellent "shots" from life, which show as much as single pictures can of the habits of each bird. They are not merely "pretty" pictures, but add to the factual content of the book.

This volume is an English translation (made by the author) of the Dutch version (also published 1960) entitled *Atlas van de Europese Vogels*. The English version has a short preface by A. Landsborough Thomson.

Many Palearctic birds are also found in North America, and their distribution maps include their American ranges; hence, the volume will be of interest to provincial bird students in the United States as well as to others not limited by geographical boundaries.

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La Théorie des Gaz Neutres et Ionisés. C. DeWitt and J. F. Detoeuf, Eds. Hermann, Paris; Wiley, New York, 1960. 496 pp. $17.50.

Owing to new experimental techniques and results and to the extensive application of field-theoretical developments in perturbation theory, statistical mechanics is one of the most exciting fields in physics today. This volume is a high-speed photograph of a rapidly advancing field; in it one can find most of the recent ideas touched upon and a good number of the results that have been obtained by the authors represented.

The book consists of nine articles, of varying length (some articles are in French, the others in English), which review results in kinetic theory, equilibrium statistical mechanics, and plasma physics. Montroll summarizes the development of toron diagrams and their application to the perturbation expansion of the partition function. While this work is most successful for discussing equilibrium properties, applications to transport calculations are also described. Montroll also covers in his article the theory of random walks and some ideas from that theory which are applicable to the Ising problem. Van Hove describes his work in the derivation of the Boltzmann equation from the master equation and in the application of diagrammatic techniques to the elucidation of the long-time behavior of ensembles of interacting particles. This work represents a significant step forward in our under-