pletely new approach to the diagnosis and investigation of many disorders and diseases. . . ." It is his hope that "the book will be found useful by all who are interested in human development." The editor's way of doing this was to gather up 55 previously published papers (by 112 contributors) and to bind these papers, without editorial comment, into an expensive, hard-cover book. The papers themselves vary a good deal in content, literary quality, and usefulness to the student; but a critical review should be concerned not with the quality of the papers themselves but with their usefulness in the context of this book.

It must be said that a patient reader will find here a comprehensive view of this rapidly developing area of human biology. But the editor gives him no help, and the reader might save himself the price of the book by examining back issues of *Lancet* from which 30 of the 55 papers are reprinted. It is difficult to see why some of the papers were included, or what motivated their exact arrangement in the volume. That is, the development of the theme is neither precisely historical nor precisely categorical. If it were historical, Barr's papers, dealing with sex chromatin, should have been placed ahead of those in which the chromosomes were examined. Instead, they appear as papers 13 to 16. If, on the other hand, the arrangement were categorical, one would expect papers 20, 39, 44, and 47 to appear together, since they all deal with patients having XXX chromosome complements. Other papers that deal with a single topic are also scattered through the book, sacrificing, needlessly, the opportunity to provide an arrangement that allows studying the various conditions together, to one that represents the order in which the papers were originally published.

Two of the papers, not including those of Barr which discuss the nuclear chromatin bodies, contain no mention of chromosomal studies at all. Why were they included? Some of the papers are preliminary reports, and quite a few have addenda. This is suggestive of the rapidity with which change occurs in this field, and this, in turn, suggests that some of the papers represent the fluid state of thought at the time they were originally published, rather than a mature judgment made possible only by the passage of time and the accumulation of fact. What this book needs is a paragraph or two accompanying each paper, which gives the reason for including the paper, places it in the context of the development of the field, emphasizes which paths proved to be productive and which did not, brings out the impact of chromosomal aberrations on human biology, and provides the bewildered reader with guidance. If this had been done, the book would probably have been smaller and less expensive, and certainly much more illuminating.

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Cowherd to Ornithologist

Alexander Wilson, Naturalist and Pioneer. Robert Cantwell. Lippincott, Philadelphia, Pa., 1961. 319 pp. Illus. $15.

Robert Cantwell's attractive book holds an enlightening account of the conditions of Scottish life, and of the beliefs held by the society, into which Alexander Wilson was born. I confess I was a little eager to arrive at the parts actually concerned with Wilson, but the preliminary matter about corrupt conditions in Paisley assist the reader to a better understanding of Wilson's life.

The young boy, Alexander, motherless at 10 years, was thrust out to be a cowherd when his father promptly remarried. Young Wilson spent three years roaming the fields and watching the cattle, completely without further opportunity to go to school.

We next see him back in Paisley as a weaver's apprentice, bound at service for another three years, during which he became fascinated with the Scottish poets and embittered by the frightful labor conditions. Wilson was fond of pranks and rhymes, and amused the other boys by reciting poetry to the rhythm of his loom, or he wrote satirical rhymes and take-offs about the townspeople in authority, whom he did not like. His poetry improved but became more bold as he grew older, until the famous piece, *The Shark or Lang Mills Detected,* put him in prison for libelous conduct.

The author skillfully portrays his understanding of this strange talented personality, starved for education and sympathetic friends.

Out of jail, and, for a final gesture, required to burn his poem on the steps of the Tolbooth, Wilson thought only of going to America. He became a peddler and saved every sixpence toward this end. A successful poem which he wrote, "Watty and Meg," was so good it was credited to Robert Burns, the idol of Scotland. This blow to Wilson's pride no doubt helped him to "make it" to America.

The account of Wilson's American experience is remarkably full but not without error in some areas, where Cantwell becomes a little too sure, for lack of correct information, and fails to give credit to his sources. For example, the statement regarding "the occasional scarlet ibis" sent to Wilson by Stephen Elliot seems very doubtful since this species is not yet accepted on the Georgia List of Birds.

There is also a little misinterpretation in the author's account of John Abbot. If Stephen Elliot is one of Cantwell's sources, it seems that his name and the titles of the publications or manuscripts used should be given.

Alexander Wilson, Naturalist and Pioneer is a mine of information, and although it is a beautiful book, it is oversized to the point of inconvenience. Any serious student of Wilson will most certainly want to own this book, preferably in a smaller format, and he will be eager for the source material. A more complete bibliography would make the book much more useful and footnotes through the text would be a boon to scholars.

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Optical Masers

Advances in Quantum Electronics. J. R. Singer, Ed. Columbia University Press, New York, 1961. xvii + 641 pp. Illus. $15.

Once again the Office of Naval Research is to be commended for sponsoring a conference on quantum electronics (the second conference) and for supporting publication of the papers presented. The new and exciting development that took place in the months before this meeting was the optical maser, and many papers are devoted to experimental and theoretical description of this device. In his opening paper, Charles Townes suggests several new fundamental experiments made possible by the optical maser. Several papers