Book Reviews

George Ellett Coghill: naturalist and philosopher. C. Judson Herrick. Chicago: Univ. Chicago Press, 1949. Pp. xi + 280. $5.00.

In the small book which first made Coghill internationally known, *Anatomy and the problem of behaviour* (Cambridge, Engl.: 1929), Coghill wrote in the preface that in Judson Herrick "I have enjoyed these many years a constant influence of orientation and stimulation in neurological work." The living friendship between the two men lasted almost half a century. In the nature of their special scientific work, and in the breadth of their scientific and philosophical interests, Herrick and Coghill not only were very similar, but helped each other to arrive at this similarity. Nothing, then, could be more appropriate than that Herrick should write the story of Coghill's life and work and its significance.

It may at once be said that this is an extraordinarily good book. It should be read by the whole scientific confraternity, especially by those younger men who are about to enter its not untroubled domain. And if only the lay public could be persuaded to read this book, about the life, work, and vicissitudes of a great representative American man of science, it would be much to the advantage of society in general and to the scientist in particular.

Herrick makes the story of the life of science as lived by Coghill, the development of his science, and the interrelationship of the two themes, the vehicle for a most cogently expressed plea for the humanization of science. "My thesis," writes Herrick in his preface, "is this: The traditional code of science—that is, the objectives sought and the methods of investigation—cannot satisfy the requirements of our critical times, and this is why science has failed to measure up to the opportunities and obligations before it. The generally accepted ideas of what natural science is and what it is for are out of date and need radical revision. We have been taught for centuries that pure science is a system of facts and impersonal abstractions, devoid of human interest and without concern for values. It isn't, and it cannot be. The time has come to recognize the humanistic value of science—so-called pure science, I mean—and to adjust our practice accordingly."

And again, in the epilogue: "Scientific facts are not worth what it costs to discover them unless they can be so interpreted as to lead to value-judgments as guides to more satisfying purposeful action."

This book is one of the best proofs of this thesis.

The book is divided into three parts. The first is devoted to the life of Coghill living his science. Scientists will read this chapter with admiration, and perhaps not altogether with astonishment at the academic disaster which was so unjustly and so cruelly visited upon Coghill. The second part contains the best and most readable account of Coghill's important work and its significance that has thus far appeared. The third part is devoted to an invaluable discussion—in dialogue form—of Coghill's philosophical outlook. Five appendices are devoted to notes, a list of published works and manuscripts, supplementary biographical data, data on the killfish, and acknowledgments. There is a good index.

This is a great book on one great American man of science by another.

M. F. Ashley Montagu
Hahnemann Medical College

Science at war. J. G. Crowther and R. Whiddington. New York 16: Philosophical Library, 1948. Pp. iv + 185. (Illustrated.) $6.00.

The output of books on the late war has only begun. A large number of purely factual reports have come out, written to give the general public an idea of what went on. But the controversial books, written in an attempt to draw lessons or conclusions from the conflict, are just beginning. Blackett's *Fear, war and the bomb* is one and Fuller's *History of World War II* is another, less disagreed with than the former, though nearly as thought-provoking.

Science at war is one of the factual reports, this time about the contributions of British scientists to the war effort, particularly in radar, operations research, nuclear physics, and undersea warfare. It is a counterpart to the Little, Brown series on *Science in World War II*, which treats of the American contribution; and a comparison of the English book with the American series, particularly with J. P. Baxter's *Scientists against time*, is enlightening.

One notices that the British book is more concerned with the scientific ideas and factual content involved in the developments, whereas the American effort spends more time on questions of organization and personal aspects. Baxter's book is easier to read, but if one is persistent one will gain more understanding of the working principles of radar and of asdic, for instance, from Crowther and Whiddington. In particular, their section on radar, with its many clarifying pictures, is well worth careful reading.

Reading both books produces some confusion at first, for they are, to some extent, mutually exclusive. To read *Science at war* gives one the impression that 90 percent of the contribution was made in England, whereas Baxter's book gives the impression that 75 percent was done over here. This semichauvinism is understandable, of course, for each author's task was to report the contributions of his own country's scientists and he could not do this by spending much time on (to him) foreign developments. One only hopes that, sometime, a complete history will be written, placing all contributions in their proper relation.

Of particular interest is the section on operational research, since this aspect of science's contribution was

so inadequately covered in the American series. Crowther and Whiddington give an interesting, though somewhat fragmentary, discussion of early developments, and a very clear presentation of the scope and methods of this new branch of applied science. A number of examples of the application of the methods are given, then a discussion of general principles which is adequate, though not as complete or satisfactory as the famous articles of Blackett and of Goodeve.

The discussion on the atomic bomb adds nothing beyond what is contained in the Smyth report, other than a bit more detail of the British contributors and their early activities before coming to the United States to work for the Manhattan District.

The chapter on "Science and the Sea," on the other hand, contains much on mines and minesweeping that is not to be found in American books. This is, of course, owing to the fact that our forces had very little trouble with mines, whereas the British suffered considerable loss, especially because of the magnetic mine, which they had solved and countered before our entry into the war. The discussion of submarine detection is brief, but fairly complete.

On the whole, this book is a readable and interesting volume, a useful complement to our own reviews.

PHILIP M. MORSE
Massachusetts Institute of Technology

Blood transfusion. Elmer L. DeGowin. Robert C. Hardin, and John B. Alsever. Philadelphia-London: W. B. Saunders, 1949. Pp. xii + 587. (Illustrated.) $9.00.

A valuable if expensive lesson from the recent World War was the important uses of blood, plasma, and plasma derivatives in the specific therapy of many conditions previously treated only symptomatically if at all. The very low mortality in the members of the armed forces in this war has been credited in part to the free use of these materials. When the many experienced physicians returned from military service to civilian practice, they demanded more blood and blood fractions for everyday surgery, emergency medicine, and replacement therapy. This has lead to a considerable increase in blood banks and a great demand for many more.

To answer the many questions which the physician asks regarding blood transfusion, there has been an unusual paucity of authoritative and up-to-date text books. The appearance of *Blood transfusion* by DeGowin, Hardin and Alsever can justifiably be acclaimed as the answer to many a physician's prayer and a standard source of information which should help the everyday practitioner, the beginner in blood bank work, and the experienced director of such an operation who encounters problems of management.

It is well to know the authoritative background for this book. Elmer L. DeGowin has been, for almost ten years, the director of a large blood transfusion service and has served as a member of the important Committee on Blood and Blood Derivatives of the National Research Council. Robert C. Hardin was senior consultant in blood transfusion in the European Theatre of Operations and in charge of the European Theatre of Operations Blood Bank in Paris. John B. Alsever had considerable experience as director of the Blood Plasma and Blood Donor Services for the Office of Civilian Defense and the American National Red Cross during the war.

Such a wealth of personal experience cannot help but yield valuable information on blood transfusion, blood bank management, and allied problems. In addition, the authors have reviewed the literature comprehensively and bring a widely scattered bibliography up to date.

If any criticism of this much-needed text is possible, it is that recent advances in this field are continuing so rapidly that already new techniques and new therapeutic possibilities not described here are being exploited. The chapter on the use of blood derivatives, one of the most challenging advances in medicine, is too brief in view of these recognized future possibilities.

It is hoped that this volume will be as widely read as it needs and deserves to be and that new editions will keep the book in its present position of absolute leadership in this field.

LOUIS K. DIAMOND
Children's Hospital,
Boston, Massachusetts

Contribution a l'Etude de la Structure Moléculaire. (Volume Commemoratif Victor Henri.) With prefaces by L. Brillouin and J. Duchesne. Liège, Belgium: Maison Desoer, 1947–1948. Pp. xiii + 314. (Illustrated.)

Victor Henri will long be remembered for his significant contribution to the experimental work in molecular spectroscopy. His death, while he was working as a physicist in the service of his country, came at a time when there was little time to pause and pay respect to his memory. His former students and colleagues resolved, however, when times again became more normal, to memorialize his contribution with a volume of works in the field where he had served as so great a stimulation. This volume of papers is entitled *Contribution to the study of molecular structure* and contains 26 contributions by 36 authors, in addition to two prefaces by L. Brillouin and J. Duchesne.

It is not possible in a review of this nature to comment critically on a compilation of so great a diversity. One cannot avoid, however, observing that the list of authors is studded with stars from the field of molecular structure and molecular spectroscopy. Some of the authors are physicists, some are chemists; some are experimenters and some are theoretical scientists; but all are well known in an international sense.

The volume represents a compilation that every student of the structure of molecules will want to possess and will want to refer to again and again in his more creative work for many years to come. It should, therefore, admirably serve its purpose, namely, to keep the name of Victor Henri alive among the men who serve where he left off.

HARALD H. NIELSEN
Mendenhall Laboratory of Physics,
Ohio State University