BOOK REVIEW

Limnol. Oceanogr., 33(3), 1988, 488

STOMMEL, H. 1987. **A view of the sea.** Princeton University Press, Princeton, New Jersey. 165 p. $19.95.

Besides an impressive production of scientific and technical papers, Henry Stommel has found time to write a number of semipopular articles and books on various subjects, including two recent books dealing with "the year without summer" (volcanic effects on the summer of 1816) and with "islands that have vanished from nautical charts." The present book deals with the physics of the oceans, but actually weaves together three stories: the story of an oceanographic expedition which Stommel undertook to test his idea of the "beta spiral"; the story of the Chief Engineer on the ship, who is keenly interested in learning about the mechanism of the "ocean engine"; and, finally, the science part. Stommel attempts to teach the Chief about ocean circulation without equations, using only simple mechanical analogues and block diagrams (Why break this nice rule on p. 91, where derivatives and integrals suddenly pop up?). Stommel is a master in popularizing complicated subjects, as this one is, but the task is not easy. Some of the discussions appear somewhat lengthy and complex, when mathematical shorthand is not allowed, but the Chief seems to grasp everything quite well and makes many important contributions himself to the discussion. He would have deserved an honorary degree, but there are no rewards at the end: the Chief's lungs are destroyed, and he dies within a few weeks, saying goodbye for the last time to Stommel with the words "thanks for giving me something pleasant to think about."

To whom is this nonmathematical story of ocean circulation theory really directed? Harald Sverdrup wrote a book on oceanography for Norwegian fishermen, Carl-Gustav Rossby wrote a book on meteorology for "intelligent farmers," but I doubt there are many Chief Engineers who could actually assimilate the material as well as is described in the book. New students in oceanography should certainly enjoy reading the book, but I feel that those getting the most pleasure out of it would be senior students and their teachers, who have already been through the story in formal mathematical language. The book also includes eight specific theoretical-numerical problems aimed at illuminating different aspects of ocean circulation. They come complete with programs, allowing the reader to try them out immediately on his personal computer.

I really enjoyed reading the book and have found a great deal of material in it which I want to include in future classroom teaching. I expect that many of my colleagues will have similar reactions after studying this highly original and interesting contribution in Stommel's series of books.

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