

# Book Review

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## ***An Album of Fluid Motion***, assembled by Milton Van Dyke

The Parabolic Press, Stanford, Calif., 1982, 176 pp., \$20 text edition, \$10 paper.

In *An Album of Fluid Motion*, Dr. Van Dyke has compiled a valuable set of striking black-and-white photographs depicting various fluid dynamic phenomena. Distinctive swirls, sweeping shock waves, and sleek streamline patterns convey a sense of motion and spark one's imagination and curiosity. In addition to aesthetic qualities, each photograph has a specific technical significance and is accompanied by a clear, succinct statement citing the flow conditions, the visualization technique employed, and the reference source.

These pictures are in the spirit of some presented by the National Committee for Fluid Mechanical Films (NCFMF) and issued in the well-known *Book of Film Notes: Illustrated Experiments in Fluid Mechanics* (MIT Press, 1972). However, the pictorial quality and detail of Dr. Van Dyke's collection are substantially better than those of the *Film Notes* and the subject matter is somewhat broader in scope. Of course, the photos in *Film Notes* were by-products of the black-and-white motion pictures produced under the auspices of the NCFMF. *An Album of Fluid Motion* covers creeping and laminar flow, separation, vortices, instability, turbulence, free surfaces, natural convection, and subsonic and supersonic flows and shock waves.

It is worth noting that a number of recent visualizations have employed multicolor photography with very good effect. An example is the small volume devoted to vortex flows compiled by Dr. J. J. Cornish III of Lockheed-Georgia Co. in conjunction with a lecture he delivered in October 1982. Interesting color photos have also been produced by NASA in connection with flows around

bodies and observations of the planetary atmospheres in space. Computer-graphic color displays have likewise been quite dramatic. While color may sometimes enhance flow photography, it also makes publication more expensive.

In this regard, one of Dr. Van Dyke's stated aims was to make the *Album* reasonable in price to facilitate its use by a broad audience, particularly students. This objective has been achieved and students can derive much benefit from the *Album* as a complement to course material. Generally, it is intended that additional sources of explanation will be consulted to complete the technical information and interpretation of the photo captions. Certainly most textbooks and monographs do not furnish the wealth of visual material in the convenient and attractive form provided by this *Album*.

Flow photography is part of a long-established relationship between science and technology and the visual arts. Indeed, Dr. Van Dyke's compilation was inspired in part by a volume of pictures relevant to the science of optics. We can expect new technological developments to enhance our visual experiences in the future. Laser methods, computer graphics, image enhancement, and color will increase the effectiveness of both two- and three-dimensional representations. Also video photography and playback will improve the convenience of motion-picture utilization. Hopefully, these will aid in pedagogy and in the continuing development of scientific thought. In this context, Dr. Van Dyke's *Album* is a valuable contribution to the world of flow studies and is highly recommended to all.

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