



“Physics in Canada”
Book Review

“La Physique au Canada”
Critique de livre

A Gallery of Fluid Motion, Edited by M. Saminy, K. S. Breuer, L. G. Neal, and P. H. Steen, Cambridge University Press, 2003, pp: 118, ISBN 0521827736 (hc), ISBN 052153500X (pbk); Price: US\$95/\$35.

Some books teach, others inspire. *A Gallery of Fluid Motion*, which falls into the latter category, collects prizewinning images of various fluid-dynamical phenomena. To understand the origin of this book, one must know a bit of its history. In 1982, Milton Van Dyke self-published a book entitled *An Album of Fluid Motion* that tried to illustrate many of the concepts of fluid dynamics through photographs requested from colleagues around the world. Written just at the beginning of the revival of interest in fluid dynamics by the physics community (as part of studies of chaotic phenomena and pattern formation) that work inspired much further research, as people were motivated to explore further the many images shown in Van Dyke's book. Soon after, the Division of Fluid Dynamics of the American Physical Society began an annual “photo” contest whose winners were selected on the basis of both artistic interest and instructive value.

The present work collects many of the winning entries from this contest. In browsing through it with Van Dyke's book at my side, I am struck by how it reflects the evolution of the field over the past 25 years. The work by Van Dyke is limited to black-and-white photography, while most of the images in the *Gallery* are in colour, with some actually being video clips (available at <http://scitation.aip.org/phf/gallery/>). And while Van Dyke's book was limited to straightforward photographs, we now see that image processing, to bring out subtle details, has become common. In a further blurring of theory and experiment, some of the images in the book by Saminy et al. come from computer simulations. Perhaps most interestingly, Van Dyke's book was entirely limited to the flows of Newtonian fluids, while the present book broadens its scope to multiphase flows, complex fluids, granular media, combustion—an accurate reflection of the broadening interests in the community.

Words can hardly do justice to the contents of this book, from the anthropomorphic cover photograph of combustion, to the aggressive expressionistic splashes of chaotic mixing, to the playful popping of water balloons under reduced gravity, to the impressionist-like vortex swirls of convective flows—these images truly inspire. You can get a taste of them on the above-mentioned website, but the quality of the originals is more than worth the modest price of the paperback edition.

John Bechhoefer,
Simon Fraser University, Burnaby, British Columbia, Canada