

Editorial

THE BANDWIDTH of submissions to our journal spans many approaches to engineering education, combining current approaches with the traditional methods of instruction in geographic areas with relatively recent access to modern engineering culture. In this issue very recent classroom applications of engineering design practice are given in the paper by **Calkins, Scholz and Egging**. Here knowledge-based engineering design methodology combining computer-aided design with knowledge-based incorporation of physical elements in the modeling of a hand vacuum cleaner and a parametric human are demonstrated as project exercises in undergraduate and graduate design classes. Such realistic design exercises lead students directly to the doorstep of industrial design practice in some of the most sophisticated engineering industries in the world today. Students are dealing with applications very similar to those employed in the aerospace industry, one of today's most advanced engineering-based industries.

Almost at the opposite end of current information systems sophistication, **Congleton and Chama** describe some fundamental laboratory experiments for students of physical metallurgy at the University of Zambia. Fracture theory is demonstrated in a series of seven easily constructed experiments in a low budget metallurgy laboratory. What makes this journal so unique, is that it aims to act as a reference source of current engineering education practice in a variety of learning environments located in different countries and continents. The engineering environment of the university of Washington, the source of the design methodology paper, with its proximity to the homes of Boeing and Microsoft is decidedly different from that of Lusaka in Zambia, where engineering is emerging from a tradition based on copper mining industries. Although the journal aims to show what is currently being done in modern classrooms, there is still a substantial body of fundamental engineering knowledge which is presented, and will continue to be presented, in relatively traditional ways. The example of a limited-budget physical metallurgy laboratory is a reminder of what engineering is and has been about for many decades.

The journal is entering its sixteenth year of publication. The quality of papers is now approaching what I as editor had been hoping for when we began in 1985. As there were no precedents to the journal, and practically no tradition of writing for an engineering education journal, we have had to slowly feel our way with the help of our authors, towards a satisfactory representation of its aims and goals. The quantity of papers submitted has grown so large that we sometimes have to restrict the number of papers accepted for publication—a situation very different from our first issues where we had to struggle to get enough material. There is little choice—in fact a dwindling choice—for authors who want to publish in engineering education, with most other journals having lower publication frequencies and a narrower breadth of accepted papers; nevertheless we hope to continue meeting the demand from authors for publication in engineering education.

Michael Wald