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Editorial

THE TIME students spend obtaining a degree has become a permanent topic of discussion in higher education circles in Germany. With increasing pressures on the economy, long sojourns at a technical university or an engineering college become a burden on the national economy. Although economic considerations are not being discussed very openly in this respect, economic corrective measures are being considered. Figure 1 shows the average duration of university studies in electrical engineering in Germany. A median of 6.2 years is required to receive a diploma degree. The age of engineering graduates is shown in Figure 2: engineering graduates at universities are 27, and at engineering colleges 26, when they leave their institutions to start a working life. Several reasons may be put forward for the protracted stays. Students may repeat failed exams up to three times in some institutions, and there are no prerequisites for attending and passing most courses. Studies are usually divided into pre-diploma and main-diploma segments, so that one needs to complete the first segment before starting the second. However, movements within these two segments are relatively free, i.e. in many cases one can take second-year courses before finishing first-year courses. For example, in mechanical engineering courses one may attend and be examined in engineering dynamics before having completed an introductory mathematics course. A recent phenomenon is that students take up side jobs in order to maintain a living standard they have been used to. What is new about this development is that the reason for prolonged stays at universities and colleges has changed. Previously students took up jobs while studying because they needed the money to support themselves. Today many students want to maintain standards that years ago would have been considered luxurious. For many years only a few were bothered about these things. Recently, with the increasing concern about quality in education, this has become a hot topic. Naturally the connection with a recession-prone economy cannot be overseen. With student numbers over twice the capacity of higher education institutions, the need for a faster turnover is obvious. With unsatisfactory reasons for prolonged study times, stricter controls will be required. It is clear that for a system used to proclaiming the Humboldt ideal of 'freedom of research and teaching'—which in many ways has been interpreted to mean 'no controls'—a change to a more rigorous system may be somewhat painful. Preliminary ideas, heralding the introduction of a fee for attending higher education, are being aired. At first, only a penalty fee may be considered for those overstaying their 'regular' study times. It may be unavoidable, however, with the pressure to accept so many new students, that further economic measures will be needed to stem the flood. In the meantime, the trend towards the universities of and for the masses continues.

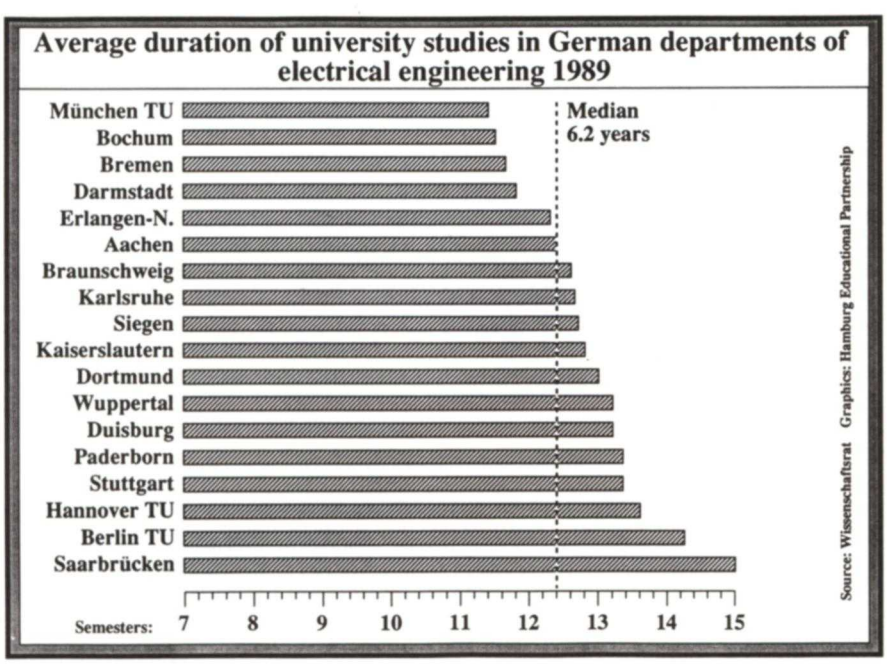

Fig. 1

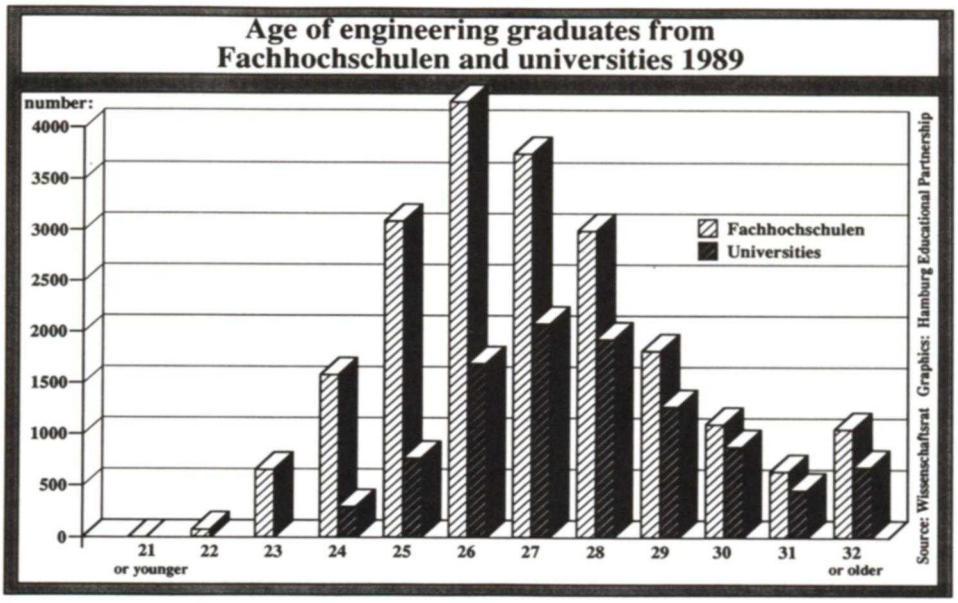

Fig. 2

In this issue we print the contents of the first issue of a new quarterly journal, the *Journal of Engineering Education*, published by the American Society for Engineering Education. The journal is a completely new concept of a previous publication by the society called *Engineering Education*. The society has transferred the news items and general articles from that journal to their *Prism* publication and with the *Journal of Engineering Education* aims to provide an archival publication aimed at recording where engineering education is, where it has come from and where it appears to be, and should be moving. I have for many years hoped—and had many discussions to that effect with the officers of the ASEE—that an engineering education journal of this kind would be published by the largest engineering education society in the world, and I wish to congratulate the society for finally doing so. It is vital that now that the attention paid to the quality of engineering education is increasing everywhere, more professional journals should appear to discuss the issues. All the best to our new companion.

For further information write to: **ASEE, 11 Dupont Circle, Washington DC 200036–1207, USA.**

We also include in this issue details of our new CD-ROM for Apple computers containing seven multimedia educational programs. The compact disc contains over 300 MB of text, graphics, animations, video and audio. It demonstrates the power of new authoring systems applied to technical and medical education. The disc's purpose may best be described as multimedia computer-aided learning, rather than computer-based training. You can order this exciting new disc by returning the form enclosed immediately following this editorial. Enquiries to: **TEMPUS Publications, Berliner Tor 21, 2000 Hamburg 1, Germany.**

We are pleased to announce two special issues that have been scheduled for publication. The first contains comparative international studies on approaches to engineering education, between the USA, Germany, the UK, Israel and Japan. The issue stems from an international meeting in Santa Barbara in August 1992, and is edited by **Karl Willenbrock**. The second special issue is on technical engineering education in India, and contains an intimate review of how India copes with specific problems in an area of particular challenge for less well-developed regions. The editors of this issue are **R. Natarajan** and **N. V. C. Swamy** of the Indian Institute of Technology in Madras.

Michael S. Wald