

10. HE RECOGNIZED THAT FACULTY MEMBERS HAVE AN OBLIGATION TO ASSIST COLLEAGUES IN OTHER INSTITUTIONS.

Professor Hougen was always willing to give help to professors in other schools and in other countries. He would go out of his way to take care of foreign visitors and to assist them in achieving their goals of improving chemical engineering in their own nations. He rec-

ognized that the preparation of textbooks was a key responsibility for professors in leading research departments, and he made substantial contributions in that area along with his colleagues Professor K. M. Watson and Professor R. A. Ragatz.

11. WE HAVE, AS FACULTY MEMBERS IN A STATE-SUPPORTED INSTITUTION, A RESPONSIBILITY TO SERVE THE TAXPAYERS BY PERFORMING OUR JOB WELL.

We all know that state-supported universities have their ups and downs financially. Professor Hougen often said that he felt that the citizens of the State of Wisconsin had been very generous in supporting our

university and that we have a duty to perform our assignments as well as we can with the limited resources available.

12. DO NOT SHOW EMOTIONS OF BITTERNESS OR BERATEMENT OR BELITTLEMENT; ASCRIBE THE BEST MOTIVES TO YOUR ASSOCIATES; SAY NOTHING DEROGATORY.

These words, written in a note to himself, are sterling words of advice for the creation of a collegial atmosphere within a department. Professor Marshall quoted

the above words at the memorial service for Professor Hougen, and as Professor Marshall said ". . . indeed, Olaf lived by this creed."

The departmental staff members of my generation have grown up with these principles because we were young faculty members when Olaf Hougen was in his prime. If succeeding generations of professors can follow these guidelines, our students will be assured of a high-quality education and the profession of chemical engineering will be a dynamic and lively profession.

Editorial

OLAF HOUGEN: Teacher, Researcher, Educator

In previous editorials (Vol. XX, 3, 100) we indicated that the goal of a department or of an individual professor should be to serve society (the profession, university, department, students, etc.) rather than to seek high ratings (in the case of the department) or personal recognition (in the case of the professor). In this issue we illustrate this principle through the example of the late Olaf Hougen and the University of Wisconsin.

When Professor Hougen and his colleagues began their authorship of *Chemical Process Principles*, their motivation was to demonstrate how scientific principles could be used in practical situations to achieve a quantitative result of importance to industry (see Principles 4, 5 and 10). They did not write their pioneering three-volume text with the prime goal of gaining recognition for their department or for themselves, but instead did so with the goal of fulfilling a professional/societal need. The consequence of their work, however, was that Wisconsin's PhD students became very much in demand as they "seeded" various departments, spreading the Wisconsin attitude around the nation and even the world. These missionaries in turn had PhD students who became disciples of the Wisconsin

attitude themselves (see the Hougen "tree," *CEE*, Summer 1968). As a consequence of this service to the profession and society, Wisconsin continually ranked first in the nation in surveys such as the Cartter report and in subsequent reports of quality in chemical engineering education. But the Wisconsin department, in achieving this recognition, did not disregard teaching in a zealous drive for ratings; instead it emphasized teaching and recognized that research is a form of teaching. A reading of the above paper on Hougen's principles, by Professor Bird, clearly indicates that Olaf Hougen was at once a great teacher and a great researcher who saw in both of these activities an opportunity for service.

Later, Professor Hougen played an important role in the development of transport phenomena when he brought Professor Bird back to Wisconsin and charged him with the responsibility of putting on a firm scientific basis the computation of energy, mass, and momentum transfer. Instead of an inane competition for prestige, let us follow the example of service as set by this great man.

Ray W. Fahien