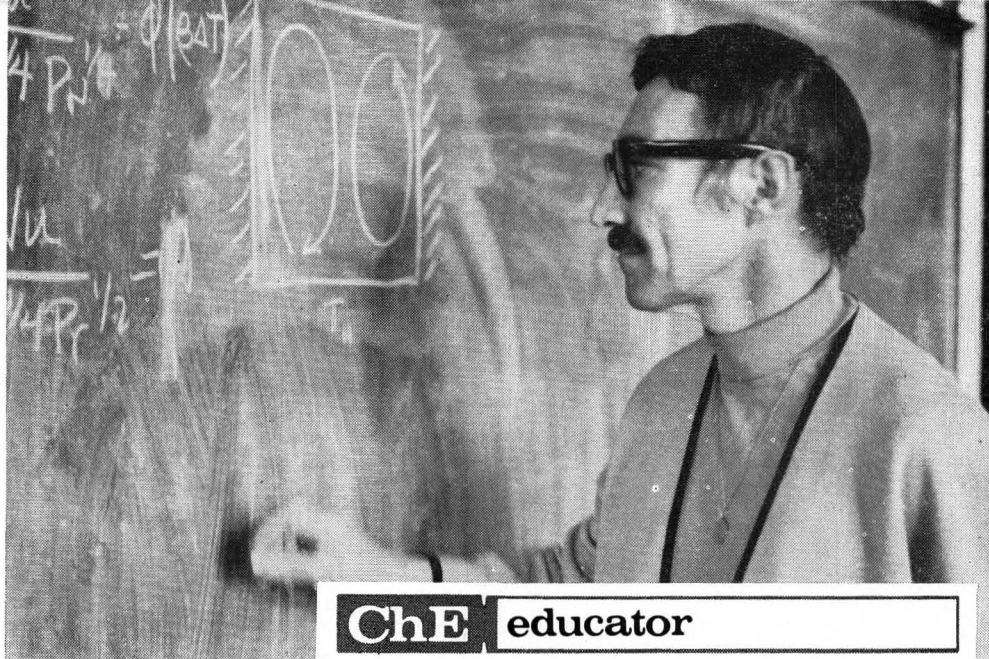


STUART W.
CHURCHILL
OF THE
UNIVERSITY OF
PENNSYLVANIA



ChE educator

ARTHUR HUMPHREY
University of Pennsylvania
Philadelphia, Pa. 19104



HYO is the name Professor Churchill acquired in Japan. The translation of HYO is leopard. This name is symbolic of the vigor with which Stu translates the excitement of Chemical Engineering to students and professionals alike, and also of his deep interest in the international development of chemical engineering education.

No other chemical engineer has so vigorously urged the future importance of Chemical Engineering or so strongly insisted that the ASEE "Goals" Report did not adequately recognize the uniqueness of Chemical Engineering. The Chemical Engineering profession was fortunate to have such a dynamic spokesman as Dr. Churchill in the critical position of AIChE President and AIChE representative on ECPD during the years in which the Goals Report was formulated and discussed.

In recent years, it has been fashionable for humanists and social scientists to attack the engineering profession for contributing to rather than solving society's problems. Stu has been called upon time and again to defend our profession. Like the leopard, he has taken the offense. This position is best illustrated by the closing statement of his AIChE presidential address — "We need to speak confidently to the public as engineers, as Chemical Engineers, as the servants and hope of mankind" — and in his address before the New York Academy of Science on the question of engineering survival and obsolescence

"How can any man do so much?"

— " . . . engineering will not only survive, it will prevail. It will prevail because it holds the only hope for solution of the major problems confronting mankind. It will prevail despite the attacks of its friends and enemies because it has demonstrated the capability of changing and evolving — not through exhortation or formulas, but through response to human needs."

Until recently much of Stu's life has been oriented around the University of Michigan where he received all of his degrees. Note should be made of the fact that Stu played clarinet in the famous Michigan Band. It has been said that at Michigan the Band required more time than football, but he found time for the Band while compiling an outstanding undergraduate record. After receiving a bachelors degree in engineering mathematics as well as chemical engineering he worked four years for the Shell Oil Company at Wood River, Illinois and one year for the Frontier Chemical Company at Denver City, Texas before returning for graduate work. Stu has stated that it was exposure to exceptional professors at Michigan such as A. H. White, C. E. Love, G. G. Brown, D. L. Katz, J. C. Brier, R. R. White, C. M. Sliepcevich, and M. Tribus that really kindled his enthusiasm for Chemical Engineering and teaching. In 1952, following the receipt of his PhD degree, he was appointed to the staff as an Assistant Professor. He achieved the rank of professor only five years later. Between 1962 and 1967 he was Chairman of the

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Department of Chemical and Metallurgical Engineering. In his 15 years as a faculty member at Michigan, Stu served on 27 different University committees. These committee duties ranged from Vice Chairman of the Senate Advisory Committee on University Affairs to the President's Commission on Year Around Operations to Vice Chairman of the Board of Control of Intercollegiate Athletics. For most university professors this kind of committee load would have been the kiss of death to their research program. But Stu personally supervised 27 PhD theses, served on the doctoral committees for another 48 PhD students, and wrote 78 technical publications during this time. He also found time for a heavy load of professional society responsibilities culminating in his election as President of the AIChE. During his tenure as president he managed to visit a majority of the AIChE local sections. While an officer of the AIChE, F. J. Van Antwerpen encouraged his interest in international chemical engineering and he became involved in the development of meetings and educational projects in England, France, Germany, Russia, India, Japan and Mexico.

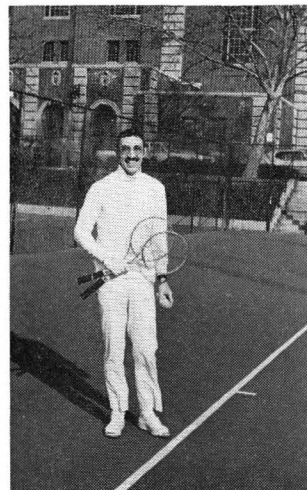
He has been a strong advocate of faculty interchange both internationally and intranationally, and has himself given seminars at over 30 universities.

How can any one man do so much? Only those who have seen Stu in action can know. Few people have the ability to understand a situation or grasp a new concept as quickly. He always penetrates to the nub of any problem, quickly discarding the unessentials. He can make deci-

sions with haste without making them seem hasty decisions.

Stu is an outstanding classroom teacher. Students at the University of Pennsylvania rate him one of the best in Engineering. One of the most telling comments is that heard recently from a graduate student taking his course in Advanced Transport Phenomena who said, "Dr. Churchill made the course come alive for me. I am now able to see the meaning and relevance of transport phenomena to Chemical Engineering practice. Transport theory only seemed like an exercise in applied mathematics when I was an undergraduate."

Stu has always argued for a strong interaction between industry and academia. As AIChE President he appointed a Blue Ribbon Committee of industrial executives and faculty leaders to make recommendations for the development of a



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better liaison. At Michigan he arranged with duPont and Hercules a special program to provide industrial experience for his young faculty members. He tries to live up to this concept in his teaching and research. His lectures and home assignments, however theoretical, always have a flavor of practicality. He says that many of his research ventures have been stimulated by consulting experiences. His research, while centered on heat transfer, combustion and mathematical approximations, has covered a wide range of subjects, perhaps for this reason. He has consulted for over 19 companies, notably for Conch Methane Services, Ltd. in the development of the technology for storing and handling liquefied natural gas and for the 3M Company. He has also served as a consultant or advisor to many Universities.

Stu has proclaimed on several occasions that "engineering courses should continually evolve. They should be an exciting joint venture by the student and the professor into the unknown of Chemical Engineering." It was, in part, a desire to live this philosophy that brought Stu to the University of Pennsylvania. As the Carl V. S. Patterson Professor of Chemical Engineering at the University of Pennsylvania he has been presented with an opportunity to do a minimum of administrative work and to interact with students at an intensity not previously available to him. The relatively small classes of high quality students at Penn have made it possible for Stu to conduct his classes in seminar style in the true classical sense. One can not help but marvel at the way in which he can get students excited about Chemical Engineering. I suspect that in the future the profession will see more and more of the Churchill enthusiasm for Chemical Engineering being espoused by his former students. He is very proud of his doctoral students, who are listed below. Fifteen have been inspired to follow him into teaching, including our own Warren D. Seider.

There is another side to Stu, a very human side, that few have the opportunity to see or experience. I purposefully say experience because that is exactly what a personal encounter with Stu is. I have not met another person with such a zest for living. He seems to know something

STUDENTS WHO COMPLETED THEIR DOCTORATE UNDER STUART W. CHURCHILL

Peter H. Abbrecht	William N. Zartman
Morton P. Moyle	James A. Leacock
William R. Martini	John C.-C. Chen
Herbert E. Zellnik	J. David Hellums
Bert K. Larkin	Thomas D. Bath
Martin E. Gluckstein	Lawrence B. Evans
Donald W. Sundstrom	Robert G. Rigg
William N. Luckow	James O. Wilkes
Roy C. Gealer	Carl G. Vinson, Jr.
George C. Clark	Dudley A. Saville
Irving F. Miller	Michael R. Samuels
H. E. Stubbs	Warren D. Seider
Richard A. Ahlbeck	

about everything. Whether it is a special restaurant, an imported wine, a discotheque, a sitar player, the moves of a basketball player or a new development in rock music, Stu has been there, knows of it, or excels at it.

Unlike our colleagues at Wisconsin who specialize in canoeing, or at Colorado where their thing is ski-racing or the mile run, or at Houston where staff and family all play tennis, Stu does them all—skiing, tennis, running, etc. Whatever the event Stu is the man to challenge amongst the Penn faculty. For over a year now Stu has had five of the Penn Chemical Engineering faculty running 1 to 4 miles each day. He has them aiming for a goal of a 6 minute mile. He has suggested that Penn faculty might challenge other faculties to a post card four-mile relay race. Stu has three of the faculty playing outdoor tennis the year around—even in 20°F weather. On one or two occasions a few patches of snow have had to be removed so as not to encumber play. He says he almost has his colleagues in shape to take on other schools. This spring when Bob Bird visits Penn, Stu, Bob and some Penn faculty and students are going to canoe the Delaware River.

We at Penn feel most fortunate to have Stu within our midst. However, I believe all Chemical Engineering shares this good fortune. We have Howard and Faye Churchill to thank for conspiring to create on June 13, 1920 at Inlay City, Michigan, one Stuart Winston Churchill. Not only past and present Chemical Engineers but a generation yet to be educated will owe some of their excitement for the practice of Chemical Engineering to this man.