BRITISH HONORS

FROM the list of honors arranged on the King's birthday *Nature* selects the following men of science and others associated with scientific work:

Baronet: Dr. R. Hutchison, president of the Royal College of Physicians; *K.B.E.:* Professor W. B. Benham, emeritus professor of biology, University of Otago, Dominion of New Zealand; Professor T. A. Hunter, professor of philosophy and psychology, Victoria College, University of New Zealand; the Honorable P. H. Rogers, judge of the Supreme Court and chancellor of the University of Sydney. *Knights Bachelor:* Dr. E. J. Butler, secretary to the Committee of the Privy Council for Agricultural Research and secretary to the Agricultural Research Council; F. Carnegie, chief superintendent of Ordnance Factories, War Office; Dr. R. E. Kelly, professor of surgery, University of Liverpool; Professor J. Graham Kerr, M.P. for the Scottish Universities since June, 1935, formerly regius professor of zoology in the University of Glasgow; Professor O. W. Richardson, Yarrow research professor of the Royal Society, University of London; Professor J. F. Thorpe, chairman of the Smoke Sub-committee, Chemical Defense Committee, War Office, emeritus professor of organic chemistry in the University of London and in the Imperial College. *C.I.E.:* C. E. C. Cox, chief conservator of forests, Central Provinces and Berar; H. R. Stewart, director of agriculture, Punjab; E. A. Smythies, chief conservator of forests, United Provinces; W. J. Jenkins, officiating director of agriculture, Bombay. *C.B.E.:* A. S. Cox, assistant comptroller, Patent Office, Board of Trade; Seton Gordon, for services to literature and natural history; C. E. Legat, for services to the Empire Forestry Association; G. M. Mathews, a prominent ornithologist, for services to the Commonwealth of Australia; J. P. Mead, director of forestry, Straits Settlement, and adviser on forestry, Malay States; Professor E. J. Salisbury, Quain professor of botany, University of London; R. J. L. V. Sukuna, district commissioner and chief assistant, Native Lands Commission, Fiji. *O.B.E.:* E. J. Bruen, livestock expert to the Government of Bombay; Dr. G. P. Douglas, assistant superintendent (research), Royal Aircraft Establishment, Farnborough; Dr. W. E. Fisher, principal, Wolverhampton Technical College; Professor W. G. R. Paterson, principal and professor of agriculture, West of Scotland Agricultural College, Glasgow; H. F. Mooney, forest officer, Eastern States Agency, India; J. Sinclair, for services to agriculture in the Nyasaland Protectorate; A. A. Topp, manager of the Government Explosives Factory, Maribyrnong, Commonwealth of Australia; J. Turner, forestry officer, Department of Natural Resources, Newfoundland. *M.B.E.:* B. M. Cameron, manager, Government Stock Farm and Agricultural Station, Acre, Palestine; A. P. Dodd, chief entomologist to the Prickly Pear Board, Commonwealth of Australia; W. M. Findlay, superintendent of experiments and lecturer in seed testing, North of Scotland College of Agriculture; Miss E. A. Leighton, accountant, Building Research Station, Department of Scientific and Industrial Research; A. F. MacCulloch, advisory chemist, Medical Store Depot, Madras; T. K. Mirchandani, officiating deputy conservator of forests, Bombay; Miss U. F. M. Morton, principal, Women's Medical School, Agra, United Provinces; K. R. N. Pillai, extra assistant conservator of forests, Jubbulpore, Central Provinces and Berar; H. G. Smith, statistician, Agricultural Department, Uganda Protectorate. *I.S.O.:* J. M. Dunbar, assistant and office superintendent, Department of Agriculture, Gold Coast.

STEPHEN TIMOSHENKO—SIXTIETH ANNIVERSARY VOLUME

THE arrival of Timoshenko in 1922 has proved to be a significant event in the development of engineering in the United States. There was, at that time, a lack of engineers competent to deal with the vibration problems which were arising as a result of the increasing use of high-speed machinery, the stability and buckling problems which resulted from the endeavor to make structures lighter by the use of thin walls and other similar problems in the general field of applied mechanics. To meet this need adequately it was necessary to have, in one person, a great scientist and a great teacher. Timoshenko has filled this need in full measure.

Associating himself with the Westinghouse Electric and Manufacturing Company in 1923, he found at East Pittsburgh an unusually able group of graduates of engineering schools. The majority of these had been subjected to a four-year course in engineering of the then familiar pattern and had acquired only the most elementary knowledge of mathematics and applied mechanics. Timoshenko, a born teacher, gathered these fledglings under his wing, without any official prompting or assistance, and proceeded to educate them. He became a peripatetic university for the group. Sunday mornings saw a practical exemplification of the legendary activity of Mark Hopkins in the woods and fields around East Pittsburgh. The intellectual horizon of the disciples was rapidly extended because of the close integration of their discussions with their work problems. In the interval from 1923 to 1927 there was enacted one of the most striking educational developments of our times. The men who were in that group are now among our most prominent professors of applied mechanics and our most able engineers.

The influence of Timoshenko was by no means limited to his immediate disciples. His long array of books and papers dealing with many of the new problems in civil and mechanical engineering had already made him known as a pioneer and his stream of publications has continued uninterruptedly. In a short time he was universally accepted as the leader in those fields with which he dealt. His appointment to a professorship in applied mechanics in the University of Michigan in 1927 established a new center of influence and attracted not only graduate students but also teachers and practicing engineers. His genial person-

ality tied his students and associates to him with a bond of deep affection.

It is small wonder that the occurrence of Timoshenko's sixtieth birthday was seized upon as an opportunity for a demonstration of gratitude, respect and affection, not only by those who had studied under him or had otherwise been associated with him, but also by other engineers of distinction who worked in the field of applied mechanics. The leaders in this field in other countries—in England, Germany, Holland and Turkey—were not to be denied the opportunity of joining in this demonstration.

The "Sixtieth Anniversary Volume of Contributions to the Mechanics of Solids" which was presented to Timoshenko at his birthday dinner contains contributions from thirty scientists. The contributors include Prandtl, G. I. Taylor, von Karman, Southwell, Biezeno, Westergaard, Nadai, Den Hartog, von Mises and other recognized leaders. Their papers cover such problems as buckling, vibration, friction, fatigue, elasticity, dynamic stability, stress analysis, creep and plasticity. The book is a serious contribution to the solution of many problems in the mechanics of solids.

LIONEL S. MARKS

HARVARD UNIVERSITY

DOCTORATES OF SCIENCE CONFERRED BY YALE UNIVERSITY

YALE UNIVERSITY on June 21 conferred the degree of doctor of science on Dr. Hans Zinsser and on Dr. Ross Granville Harrison. The remarks made by Professor William Lyon Phelps, public orator of the university, in presenting the candidates, and the citations of President Charles Seymour, in conferring the degrees, follow:

HANS ZINSSER, SC.D.

Professor Phelps:

After graduating from the School of Medicine at Columbia in 1903, Dr. Zinsser began his lifelong uncompromising war against infectious diseases. Within seven years he had attracted the attention of experts; and was called across the United States to be professor of bacteriology at Stanford University. Three years later Columbia recaptured him and in 1923 he made the Northeast Passage, unfortunately not stopping at New Haven, and became professor of bacteriology and immunology in the Medical School at Harvard.

But the Western Hemisphere was not large enough either to provide sufficient material for research or to contain his rapidly growing reputation. Like Scipio, he carried the war into Africa and later into the Far East. His textbook has been translated into Chinese.

During the World War, he was a member of the Red Cross Sanitary Commission to Serbia and with the rank of colonel he had charge of laboratories to protect the health of American soldiers. He received the Distinguished Service Medal, and his manual for the sanitation of a field army is a model.

Meanwhile his researches continued with unabated energy. Two of his works have served as excellent guidebooks for medical students, physicians and public health officers.

He made an aggressive attack on the dreaded typhus fever, a scourge always accompanying war and famine. He isolated and manipulated the germ of typhus called Rickettsia, and from it succeeded in preparing a protective vaccine. By careful experiments often at personal risk, he has done more than any other investigator to clarify the various forms of these protean diseases, recognizing them in their deceptive disguises. A few years ago Dr. Zinsser gave some of the results of his studies in popular language through his exciting book "Rats, Lice, and History." With impressive logic relieved by original humor he showed the effects of man's poor relations among animals and insects; and this book has not only influenced investigators; it has been profitably consulted by historians.

He is one of the foremost laboratory scientists; and in the midst of his war against disease he has made friends everywhere in the world; his chronic courage is salted with humor; for although he is a medical philosopher, we may say of him what Edwards said to Johnson, "cheerfulness is always breaking in."

President Seymour:

Brilliant in the most daring and dangerous investigation, unmatched in color and clarity of exposition, master of detailed analysis and utilizing a wealth of humanism to enrich and illumine your scientific synthesis, Yale confers upon you the degree of Doctor of Science and admits you to all its rights and privileges.

ROSS GRANVILLE HARRISON, SC.D.

Professor Phelps:

In 1907 a very good thing happened to Yale. Dr. Harrison came hither as Bronson Professor of Comparative Anatomy. The chair was well named, for he had been teaching first at Bryn Mawr, and then at Johns Hopkins. Equipped with a Johns Hopkins Ph.D., and also a charming wife and an M.D. degree acquired at Bonn on the Rhine, the Sheffield mansion became his workshop and the house afterward called Mory's his home. In a few years he created the first university department at Yale, with the perilous honor of serving on both the Sheff and academic faculties as well as those of the Graduate School and the School of Medicine. He planned the Osborn Memorial Laboratories.

His classic papers on the development of the lateral line and the muscle nerve relationships in the frog focussed the attention of American scientists. When the arguments concerning the origin of peripheral nerves had reached a stalemate Harrison answered the question by growing the nerve tissues outside the body. This brain child, known as Tissue Culture, has grown to gigantic size. It is a method universally applied to living systems and to the solution of fundamental problems in both biology and medicine.

As an investigator he is known for his complete, critical and thorough attack upon the very heart of a problem. The experiments are perfectly planned and executed. In his teaching he has been the advocate of the "Sink or