

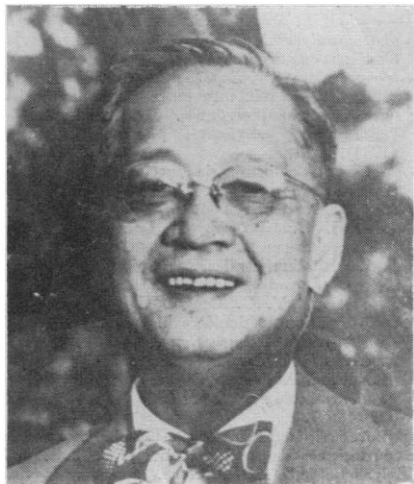
- and related substances," *Pharmacol. Revs.* 8, 265 (1956).
- W. B. Cannon and A. Rosenblueth, *Autonomic Neuroeffector System* (New York, 1937).
- J. Castilljo and B. Katz, "Biophysical aspects of neuro-muscular transmission," *Progr. in Biophys. and Biophys. Chem.* 6, 122 (1956).
- H. H. Dale, "Transmission of nervous effects by acetylcholine," *Harvey Lecture Ser.* 32, 229 (1937).
- L. Donatelli and U. Serafini, *Gli antistaminici di sintesi* (Naples, 1951).
- J. C. Eccles, "The electrophysiological properties of the motoneurone," *Cold Spring Harbor Symposia Quant. Biol.* 17, 175 (1952).
- V. Erspamer, "Pharmacology of indolealkylamines," *Pharmacol. Revs.* 6, 425 (1954).
- U. S. von Euler, "The nature of adrenergic nerve mediators," *ibid.* 3, 247 (1951).
- S. M. Feinberg, S. Malkiel, A. R. Feinberg, *The Antihistamines* (Chicago, Ill., 1950).
- W. Feldberg, "The role of acetylcholine in the central nervous system," *Brit. Med. Bull.* 6, 312 (1950).
- R. Fusco, G. Palazzo, S. Chiavarelli, D. Bovet, "Ricerche sui curari di sintesi, IV," *Gazz. chim. ital.* 79, 836 (1949).
- L. S. Goodman and M. Nickerson, "Clinical application of adrenergic blockade," *Med. Clin. N. Am.* 34, 379 (1950).
- H. R. Griffith and G. E. Johnson, "The use of curare in general anesthesia," *Anesthesiology* 3, 418 (1942).
- B. N. Halpern, "Les antihistaminiques de synthèse, essais de chimiothérapie des états allergiques," *Arch. intern. pharmacodynamie* 68, 339 (1942).
- , "Sur le mécanisme d'action des antihistaminiques de synthèse," *Presse méd.* 57, 949 (1949).
- H. R. Ing, "The curariform action of onium salts," *Physiol. Revs.* 16, 527 (1936).
- S. W. Kuffler, "Physiology of neuro-muscular junctions: electrical aspects," *Federation Proc.* 7, 437 (1948).
- O. Loewi, "Problems connected with the principle of humoral transmission of nerve impulses," *Proc. Roy. Soc. (London)* 118B, 299 (1936).
- G. B. Marini-Bettolo, "Contribution à l'étude des alcaloïdes des *Strychnos* du Brésil," *Festschr. Arthur Stoll* (Basel, 1957), pp. 257-280.
- , S. Chiavarelli, D. Bovet, "Ricerche sui simpatolitici di sintesi della serie dell'ergotamina," *Gazz. chim. ital.* 80, 281 (1950).
- A. R. McIntyre, *Curare. Its history and clinical use* (Chicago, Ill., 1947).
- D. Nachmansohn, "Metabolism and function of

- the nerve cell," *Harvey Lecture Ser.* 49, 57 (1956).
- W. D. M. Paton and E. J. Zaimis, "The methonium compounds," *Pharmacol. Revs.* 4, 219 (1952).
- M. Protiva, "Chemie antihistaminových látek a histaminové skupiny," *Nakladatelství Československé Akademie věd* (Prague, 1955).
- M. M. Rapport, "Serum vasoconstrictor (serotonin): IV," *J. Biol. Chem.* 180, 961 (1949).
- Raymond-Hamet, "Sur un nouveau cas d'inversion des effets adrénaliniques," *Compt. rend. acad. sci.* 180, 2074 (1925).
- Rend. ist. super. sanità* 12, 1-264 (1949) (numero speciale sui curari di sintesi).
- Ibid.* 15, 723-1040 (1952) (numero speciale sugli ergotamminici di sintesi).
- E. R. Rothlin, "The pharmacology of the natural and dihydrogenated alkaloids of ergot," *Bull. Schweiz. Akad. med. Wiss.* 2, 249 (1947).
- A. M. Staub, "Recherches sur quelques bases synthétiques antagonistes de l'histamine," *Ann. inst. Pasteur* 63, 400 (1939).
- S. Thesleff, "Succinylcholine iodide. Studies on its pharmacological properties and chemical use," *Acta Physiol. Scand. Suppl.* 99, 1 (1952).
- D. W. Woolley, *A Study of Antimetabolites* (New York, 1952).

Manuel Luz Roxas, Agricultural Chemist

Manuel Luz Roxas was one of the foremost scientists in the Philippines. His valuable services to the University of the Philippines as a teacher of chemistry in the College of Agriculture and the important role he played in the creation and organization of the National Research Council of the Philippines will be long remembered.

Almost immediately after Dr. Roxas' graduation from the University of the Philippines in 1911, with a B.S. degree



Manuel Luz Roxas

in Agriculture, his first research work appeared in the *Philippine Agriculturist and Forester* under the title "The pandan industry in Majayjay." This was soon followed by three other articles in the same journal: "The cultivation of coconut," "The effect of some stimulant upon rice," and "The coffee industry in the island of Luzon." Dr. Roxas pursued further studies in his chosen field and in 1913 obtained his M.S. degree at the University of the Philippines, where he then served as instructor in chemistry until he was appointed a university fellow to the United States. Evidently this appointment was in recognition of his unusual endowment with the "divine spark" to perform research. He enrolled in the University of Wisconsin and received his Ph.D. there in 1916.

On his return to the Philippines, Dr. Roxas resumed his position in the College of Agriculture in the University of the Philippines, where he was later appointed assistant professor, then professor of chemistry, and ultimately, professor emeritus of agricultural organic chemistry. He was also named Distinguished Alumnus of the University of the Philippines in 1932 for achievement in scientific research. All these deserved

recognitions were due to his active labor in the field of research, especially in agricultural chemistry and food technology; his 95 scientific papers were published in various journals, including the *Philippine Agriculturist and Forester*, the *Journal of Biological Chemistry*, *Sugar News*, and the *Journal of the Philippine Islands Medical Association*.

The National Research Council of the Philippines owes its origin to the leadership of Dr. Roxas. He headed a committee that worked continuously in preparing the draft of the bill for its creation which was introduced in the House of Representatives. With the support of Manuel L. Quezon as Senate President and other leaders of the Philippine Legislature, and the cooperation of the then Governor General Frank Murphy, Act 4120 creating a National Research Council for the promotion of research along scientific lines was approved on 8 December 1933. Elected as first chairman of the National Research Council, Dr. Roxas did a great deal in the organization of the different divisions integrating the Executive Committee of the council. For his distinguished and outstanding contributions in scientific research in the Philippines, Dr. Roxas may well be considered the "father of the National Research Council of the Philippines."

Manuel Luz Roxas was a man of sterling character, a good Filipino and patriot, simple and humble; all these qualities enhanced his merit as a true man of science. Our country can never repay what it owes him for his scientific labor and devotion to research.

ANTONIO G. SISON
*National Research Council of the
Philippines, Quezon City*