

81 Charavert



# SATYENDRA NATH CHAKRAVARTI

(1903 - 1945)

## Elected Fellow 1935

### BIRTH AND EDUCATION

SATYENRA NATH CHAKRAVARTI was born in 1903 in Calcutta. After a distinguished career at Lucknow University where he obtained his master's degree in chemistry, he went in 1926 to Oxford, England to work with Professor W H Perkin Jr, FRS, at the DYSON Perrins Laboratory.

#### CHAKRAVARTI AND ANNAMALAI UNIVERSITY

After obtaining his D Phil degree he returned to India in 1929 and took up the Headship of the Department of Chemistry at the newly started Annamalai University at Chidambaram, South India. With his unbounded enthusiasm and passion for organic chemical research, he lost no time in setting up an active research group around him. He worked heart and soul to enthuse the students around him in chemical research. He also proved himself to be a great teacher and also an administrator. Many of his students have often recounted with great feeling the personal interest he showed in their progress and the attention which he gave to even the minutest detail whether in administration or teaching. Professor Chakravarti worked at a time in South India when only the Presidency College, Madras had a welldeveloped Honours programme in chemistry. The task of developing an Honours course at Annamalai University, fell to him, a task which he carried out with great efficiency and dedication. The momentum which he gave to teaching and research activities in the chemistry department in those years in a way provided inspiration for others who succeeded him. The Chemistry Department at Annamalai University has as a consequence since maintained an unbroken tradition of high standards both in teaching and research. Professor Chakravarti was not only a hard working and enthusiastic teacher-cum-chemist; he was also popular with both students and staff members. No wonder he was elected by fellow syndicate members to be the acting Vice-Chancellor of Annamalai University for a few months.

He trained several students to obtain their MSc degree by research under his supervision. Several of his students later rose to high positions in industrial, academic

<sup>\*</sup>The memoir is based essentially on obituary notes published in Indian Journal of Chemistry (254, 1945) and Journal of Chemical Society (Britain) 840 (1946) by Dr M Swaminathan and Dr K Ganapathi respectively—themselves students of Professor Chakravarti.

and also government institutions. Ever since the day he took up the reins of office, there was a steady stream of research publications from the Chemistry Department of the Annamalai University. As a student of W H Perkins Jr during his Oxford days, Professor Chakravarti was involved in studies related to Berberine, Tetrahydroberberine and Protoberberinium salts. Several of these studies were given new directions by Professor Chakravarti at Annamalai University and during the seven years or so that he served at Annamalai University he published about 28 papers in International and Indian Chemical journals. Stated briefly, his papers deal with syntheses of isomers of tetrahydroberberine, a new method of synthesis of substituted phthalonic acids, synthesis of paraberine, homopthalic acids,  $\psi$ —opionic acid and related studies. He also carried out chemical investigations of several Indian medicinal plants published mostly in the Journal of Annamalai University.

## CHAKRAVARTI AS A FORENSIC SCIENTIST

To the great loss of the academic world, Professor Chakravarti moved in 1935 to Agra as Chemical Examiner to the Government of the United Provinces and Central Provinces. In his new position, he turned his attention to forensic chemistry and published several papers of analytical interest such as methods of determination of arsenic content in human bones and ashes, methods to distinguish between various types of opium preparations, methods of estimating cocaine in mixtures with other drugs etc. He was author of 42 original publications altogether. He was a Fellow of Indian Academy of Sciences, National Institute of Sciences of India and also a Fellow of Royal Institute of Great Britain and Ireland. He also served as a Member of the Council of Indian Chemical Society for two terms.

# CHAKRAVARTI AS A MAN

Professor Chakravarti was loved by all. Many of his students often speak of his modesty, honesty, dealings with others and also his courage and independence. He gave freely of his advice to those who sought it. Professor and Mrs Chakravarti were great hosts and his fellow staff members and students used to enjoy their hospitality quite often. Professor Chakravarti was fond of playing bridge in which he used to excel.

It is unfortunate that a promising career like that of Professor Chakravarti ended in tragic circumstances on August 28, 1945. In his untimely death, India lost one of the most active and motivated organic chemists of his generation. He left behind his wife, four children and a very large number of friends to mourn his loss.

S SWAMINATHAN

# BIBLIOGRAPHY

1927. (With HAWORTH R D and PERKIN W H Jr.) Synthetical experiments in the isoquinoline group part VII. A Synthesis of 3, 11-dimethoxyprotoberberinium salts. J. chem. Soc., 2265.

(With HOWARTH R D and PERKIN W H Jr.) Synthetical experiments in the isoquinoline graph
 Part VIII. A synthesis of protoberberinium salts. ibid., 2275.

- 1929. (With PERKIN W H Jr.) A synthesis of isoopianic acid. J. chem. Soc., 193.
  - (With Perkin W H Jr.) Synthesis of 3, 10-dimethoxytetrahydroprotoberberine. ibid., 196.
  - Experiments on the synthesis of pseudoopianic acid. J. Indian chem. Soc., 6, 207.
- 1932. (With ANANTHAVAIDYANATHAN N and VENKATASUBBAN A) A new synthesis of 3, 10-dimethoxytetrahydroprotoberberine. ibid., 9, 573.
  - (With MADHAVAN NAIR A P) An attempted synthesis of oxyprotoberberine and a synthesis of 3-methoxyoxyprotoberberine. ibid., 9, 577.
  - (With MADHAVAN NAIR A P) An attempted synthesis of oxyprotoberberine and a synthesis of 3-methoxyoxyprotoberberine. J. Ann. Univ., 1, 186.
  - (With SANE S M and PARMANICK B N) Behaviour of nitrophenols with p-toluenesulfonylchloride. Part II. J. Indian chem. Soc., 9, 55.
  - (With Venkatasubban A) Chemical investigation of Indian medicinal plants. Part -I. Preliminary chemical examination of the root bark of Capparis horrida. J. Ann. Univ. 176.
  - (With GANAPATHI K) Chemical investigation of Indian medicinal plants. Part II. Preliminary chemical examination of the leaves of Pithecolium bigenithicum, ibid., 181.
- 1933. A new general method for the synthesis of o-aldehydocarboxylic acids. A preliminary note. Curr. Sci., 2, 172.
  - A new general method for the synthesis of o-aldehydocarboxylic acids. A preliminary note.
    J. Indian chem. Soc., 10, 693.
  - (With Venkatasubban A) Preliminary synthetic experiments in the cytisine group. J. Ann. Univ. 2, 227.
  - (With SITARAMAN M L and VENKATASUBBAN A) Chemical Examination of the Indian Medicinal Plants. Part III. Chemical examination of leaves of Erythrina indica., ibid., 2, 238.
- 1934. (With Swaminathan M) Synthesis of 5,6-dimethoxyhomophthalic acid and some monomethoxyhomophthalic acids. J. Indian chem. Soc., 11, 101.
  - (With SWAMINATHAN M) A Synthesis of 3,4-methylenedioxy-11,12-dimethoxytetrahydroprotoberberine—an isomer of tetrahydropalmitine ibid., 11, 107.
  - (With SWAMINATHAN M) O-Aldehydocarboxylic acids. Part I. A new general method of synthesizing phthalonic acids. A synthesis of pseudoopianic acid and a new synthesis of mopianic acid. ibid., 11, 715.
  - (With Swaminathan M) A synthesis of pseudoopianic acid and a new synthesis of m-opianic acid. A new general method of synthesizing phthalonic acids. Curr. Sci., 2, 472.
  - (With SWAMINATHAN M) O-Aldehydocarboxylic acids. Part II. A synthesis of 4-methoxyphthalaldehydic acid and a new synthesis of opianic acid. J. Indian chem. Soc., 11, 873.
  - (With GANAPATHI K) Synthesis of peri N, N-quinolinazole. Part I. Attempted synthesis of tetrahydroperi N,N- quinolinazole. J. Ann. Univ., 3, 223.
  - (With GANAPATHI K) Synthesis of 8, 17- diketo-6, 17-dihydroparaberine. ibid., 3, 208.
- (With GANAPATHI K) Preliminary chemical examination of Teramus labialis, ibid., 3, 216.
- 1935. (With Swaminathan M) A new synthesis of 3,11-dimethoxyoxyprotoberberine and synthesis of 2,3-methylenedioxy-11, 12, dimethoxyoxyprotoherberine and 2,3,11,12-tramethoxyoxyprotoberberine. J. chem. Soc., 293.
  - Nitration of salicylaldehydemethyl ethers. Part-I. Curr. Sci., 4, 26.
- 1936. (With Venkataraman P R) Synthesis of substituted pthalidecarboxylic acids. ibid., 4, 483.
  - (With NARASIMHA RAO PL) Preliminary synthetic experiments in the cytisine group. Part-II. Further experiments on the synthesis of Ewin's structure for cytisine. J. Ann. Univ., 5, 254.
  - (With NARASIMHA RAO PL) Exploratory experiments on the synthesis of cytisine, sparteine, lupinine and related alkaloids. ibid., 5, 259.
  - (With Kuppuswamy T S) Preliminary Chemical Examination of Cryptocryne spiralis. ibid., 5, 269.
- 1937. (With GANAPATHI K) Synthesis of o-cyanoaldehydes. Part-I. J. Indian chem. Soc., 14, 463.
- (With PASUPATHI V) Studies in the naphthalene series. Part-I. Preparation of polyhydroxy derivatives of naphthalene. J. chem. Soc., 1859.
  - (With Roy M B) New colorimetric test for procain and primary amines. Analyst. 62, 603

- 1937. (With Roy M B) Indirect method of estimating cocaine in mixture of cocaine and novocaine. Curr. Sci., 6, 219.
- 1938. (With Ganapathi K and Aravamudhachari S) Nitration of m-methoxycinnamic acid. J. chem. Soc., 171.
  - (With Narasıмна Rao P L) Synthetic experiments in the paraberine group. Part-II. Synthesis of 17-keto-3,12-dimethoxy-6,15,16,17-tetrahydroparaberine. ibid., 172.
- 1940. (With SWAMINATHAN M and VENKATARAMAN P R) o-Aldehydocarboxylic acids. Part-III. A synthesis of 4,5-methylenedioxyphthalaldehydic acid and new synthesis of 4 and 5-methoxy phthalaldehydic acids. J. Indian chem. Soc., 17, 264.
- 1941. (With GANGULY K and SARMA R D) An ideal preservative for suspected washes. Curr. Sci., 10, 207.
  - (With FARUQUI M Z and GANGULY K R) Detection of arsenic in burnt human bone and ashes.
    Indian med. Gaz., 76, 722.
- 1942. (With NAUTIYAL B R and Roy M B) Criteria for deciding whether a wash is meant for illicit distillation or vinegar manufacture. J. Indian chem. Soc., (Ind. & News, Edn.), 4, 210.
- (With Roy S N) Method of water proofing calico and other cotton fabrics. Indian med. Gaz., 77, 413.
- 1943. (With MEHROTRA J K) Methods for distinguishing between various types of opium preparations used for smoking purposes. J. Indian chem. Soc., (Ind & News Edn) 6, 52.
  - O-Aldehydocarboxylic acid., Part IV. Synthesis of 5,6-methylenedioxyphthaldehydic acid.
    J. Indian chem. Soc. 20, 382.

