

## BOOK REVIEW

Harkishan Singh: *Pioneers of Pharmaceutical Industry*, Vallabh Prakashan, Delhi, 2011, 200 pages. ISBN 978-81-85731-69-8

**Reviewed by: B N Dhawan**, Ex-Director Central Drug Research Institute, 3 Rama Krishna Marg, Lucknow 226007; email: dhawanbn@gmail.com.

Prof. Harkishan Singh has been regularly publishing books on History of Pharmaceutical Sciences in India containing researched reviews on various aspects like education, research practices etc. The present volume is 9<sup>th</sup> in the series is divided in three parts covering the contributions of leading builders of pharmaceutical industry in the country. The book is aptly dedicated to Acharya PC Ray whose 150<sup>th</sup> birth anniversary was celebrated in 2011.

The first part (11 pages) reviews the development of the industry starting with the setting up of opium factories in Ghazipur and Patna in 1820. It briefly discusses the reports of various Committees of Govt of India set up to review the status and problems of the Industry starting with Drugs Enquiry Committee headed by Sir Ram Nath Chopra (1930-31) and going up to the Hathi Committee on Drugs & Pharmaceuticals (1974) and critically reviews post-independence changes in the policies of the central government. The subject has been discussed in greater detail in another book of the author 'Pharmaceutical History of India' also brought out by the same Publishers in 2011.

Part two of the book provides summary of biographical details and contributions to growth of pharmaceutical industry by seven selected luminaries. Copies of addresses by some of them at meetings of scientific societies etc. have been meticulously selected and given as appendices in last part of the book. Contributions of six of these persons have been covered to varying extent in previous volumes of the series and Mr. AV Mody is the only new addition. All of them have been instrumental in setting up major pharmaceutical industry in various parts of the country. They came from diverse social and academic backgrounds and gave different orientations to the companies started by them. All of them, however, shared the common

objective of their companies producing products meeting international quality standards and making them available to masses in India and abroad at affordable price.

Acharya PC Ray, the doyen of Indian chemists, justifiably heads the list of persons included in the book. Dr. Ray was a distinguished synthetic chemist and also an excellent chronicler of History of 'Hindu Chemistry'. He was a founder Fellow of the National Institute of Sciences, India which is now known as Indian National Science Academy. He started Bengal Chemical & Pharmaceutical Works as a small company to manufacture preparations based on reputed traditional remedies like Kalmegh, Kurchi etc. and selected products of British Pharmacopoeia. The company gradually started manufacture of OTC Consumer Products, surgical dressings, scientific instruments etc. It gradually became the largest pharmaceutical company of its type in the East and established a good export market in several neighbouring countries. The chapter briefly reviews his literary and other contributions, his proverbial punctuality and dependence on authority of *Śāstras*. His Presidential Address to Indian Science Congress in 1920 and an interview to a British News Agency have been included as appendices. He has stated in the Presidential address that modern developments fostered a state of mind that was inimical to study of science which accepts things not on trust but by verification. He stressed the need of Human resource development and stated that the capital of a country does not consist of cash or paper but the brains and bodies of the persons who inhabit it.

The other distinguished academician included in the book is Prof TK Gajjar who stated his career as Prof of Chemistry at Baroda College. He later shifted to Wilson College, Mumbai in the same capacity and set up his own 'Techno-chemical laboratory'. He established several concerns in diverse areas like a dyeing house for a mill in Surat, and soap and dyeing factories at Mumbai. His most important venture, however, was the Alembic Chemical Works at Baroda with some of his students including BD Amin. It began with small scale manufacture of some galenicals and formulations and gradually grew in a major pharmaceutical industry of the country.

Prof Singh has included two foreign nationals in the volume. H Cooper, a British pharmacist played a major role in nurturing the development of Smith Stainstreet & Company at Kolkata in a major manufacturing concern.

He was also instrumental in setting up the Institution of Chemists (India). Unfortunately he died at the young age of forty seven. A Raptakos was a Greek pharmacist who came to India as the importing agent of a French pharmaceutical company. He soon joined hands with a British entrepreneur WH Brett to set up Raptakos Brett & Company. It originally specialised in liver products, aluminium hydroxide and several dietary products. He was a great philanthropist and established Raptakos Medical research Fund to support research in medical and allied fields. Its management was transferred to Indian Council of Medical Research after his death.

The book also contains biographies of two doyens of pharmaceutical industries who played major role in growth of the discipline of pharmacy in the country and development of appropriate regulatory milieu and research facilities. Dr KA Hamied, who founded CIPLA, was also intimately associated with almost all the major committees involved in setting up research facilities at the national level and also in the industry and academic institutions. He meticulously planned projects taking care of the smallest details. The draft of a Technical Research Institute prepared by him in 1927 (included in the book as an appendix) gives exhaustive details of its space, equipment, manpower and budgetary requirements. It remains an useful model document even today. His presidential address to Second Indian Pharmaceutical Congress (1949) indicates his thorough grasp of the problems facing the pharmaceutical industry at that time and practical suggestions to solve them. Many of these are valid even today. He stressed the inherent dangers in medical men being guided in their knowledge of drugs by the literature provided by the drug companies. He also discussed the advantages of producing drugs as a result of India's own research and discoveries rather than copying products of foreign trade. This would also help a cost effective production. Similarly he emphasised the need of establishing drug testing laboratories in each state of the country and of periodic revision of the rules and regulations under the 'Drugs Act'. He expressed concern at preferential treatment to government manufacturing concerns in procuring drugs for government hospitals etc. His careful and meticulous grooming during its initial stages enabled CIPLA not only achieve the status of a major international pharmaceutical company but also successfully provide life saving drugs of highest quality against some major infections and respiratory disorders at affordable cost across the globe.

Mr. AV Mody, the founder of Unichem Laboratories Mumbai, has been featured for the first time in a book of Prof. Harkishan Singh. Mr. Mody was the first industrialist in the pharmaceutical industry to recognise the value of close cooperation between the industry and the academia and to actively promote it. He liberally provided research fellowships and contingency grants in academic and research institutions. Unichem has developed under his stewardship as a major national pharmaceutical unit manufacturing rational formulations having a wide acceptance in the medical fraternity. His presidential address to 24<sup>th</sup> Indian Pharmaceutical Congress (one of the appendices in the book) indicated the necessity of redesigning pharmacy education in the country to meet the needs of the pharmaceutical industry. He lamented the existence of weak and tenuous linkages between the academia and the industry. He stressed the need of setting up a national up to date scientific data base and retrieval organisation to help the R&D institutions and industry. Finally he highlighted in his address the need for self sufficiency in raw materials, intermediates and bulk drugs to adequately and cost effectively meet the health care needs of the country.

The volume also includes Dr. HR Nanji who was basically an academician but shifted totally to industry. He started as Sir Dorabji Tata reader in pharmaceutical chemistry at the department of Chemical Technology (UDCT) of Bombay University. He was intimately associated with professional organisations like the Indian Pharmaceutical Association, Indian Pharmaceutical Congress, Indian Chemical Manufacturers Association, Organisation of Pharmaceutical Producers of India (OPPI) as well as statutory and policy making governmental bodies including Pharmacy Council of India, Developmental Council for Drugs, and Technical Advisory Board for Drugs of the Ministry of Health etc. He pioneered development of testing laboratories by setting up Italab and Pharmed Private Ltd. He played important role in setting up Indian subsidiaries of multinationals like Wander and Scherring. He was concerned that no serious effort was being made to tap the wealth of slaughter house products and millions of tons of available sea weeds in the country. He also pointed out the need of adequate attention to be paid to ensure availability of standard quality veterinary medicines at an affordable cost.

The book bears the imprint of an extensive search of original source material, the hall mark of all the previous volumes in this series by Prof

Harkishan Singh. He has selected eminent persons whose contributions to the growth of pharmaceutical industry are well recognised and who are deceased. His choice can not be disputed but there are at least two surprising omissions. The first is Dr UR Brahmchari who discovered urea stibamine for treatment of visceral leishmaniasis and started its manufacture. It was the first modern drug discovered in India and still in use. Similarly the late father-son duo of Bhai Mohan Singh and Dr Parvinder Singh set up Ranbaxy Laboratories and nurtured it to become an international organization with new drug development a major component of its R&D activity.

The book should be a valuable resource of valuable information not only about these doyens of national pharmaceutical industry but also about the growth and development of national sector of the industry. It has many rare photographs and is extensively cross indexed. Prof Harkishan Singh needs to be complemented on this excellent and timely contribution. It is hoped that he will continue to enrich the historical literature on growth of Pharmacy and related disciplines in the country with many more similar contributions in the years to come.