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At the Meetings

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AT THE MEETINGS

At the annual meeting of the Canadian Society for History and Philosophy of Science at Saskatoon in June, ten papers on Canadian science and technology were read, representing the greatest contribution of the Canadian studies group to that society's meetings in history. The abstracts are given below (N.B. The Bulletin does not have copies of the papers. Readers wishing more information should get in touch with the authors directly.

Rainer Baehre: "The Psychiatric Theory of Richard M. Bucke:
A Study of the Impact of Evolutionary Naturalism
on Psychiatric Thought in Late Victorian Canada".

Richard Maurice Bucke (1837-1902) was superintendent of the London Asylum for the Insane from 1877 until his death in 1902, a Professor of Nervous and Mental Diseases at the University of Western Ontario Medical School, President of Psychological Section of the British Medical Association in 1897, President of the American Medico-psychological Association in 1898, author of Man's Moral Nature and Cosmic Consciousness, and frequent contributor to academic journals.

In recent years, Bucke has elicited considerable interest for his links with Walt Whitman, and with late 19th century mysticism. Although these influences on Bucke can hardly be ignored, there nevertheless exists a basic misconception as to their impact on Bucke's thought. During his lifetime the Darwinian theory of natural selection was transformed into a scientific paradigm which shaped disciplines as disparate as geology and philosophy. Evolutionary naturalism also became an important item of discussion within the psychiatric profession particularly following 1870. Bucke is clearly indebted to such evolutionary thinkers as Buckle, Tyndall, Clifford, Romanes, Galton, Lecky, and Geiger as well as, of course, Darwin. A major goal of the evolutionary naturalists was to develop a common, inter-disciplinary understanding of man and society. It is, therefore, in this context that various alienists of the period sought to integrate physiology, morality, and cosmology with scientific method and the theory of natural selection. Bucke belongs to this group.

This paper, then will attempt to posit Bucke's thought within the theoretical interface of evolutionary naturalism and psychiatric theory in late-Victorian Canada.

Christian De Bresson: "Industrial Innovation in Canada"

Myths and common prejudice about technology in Canada dominate not only public opinion but also secondary and higher education institutions mainly because of lack of Canadian content in the study of technological change. Some of the prevalent myths, in particular those promoted by J.J. Brown's "Ideas in Exile" (1967) are exposed with the evidence of a just completed survey of post world war industrial innovation in Canada (1945-1975). Some

alternative approaches for study, some factors possibly determining the choice of technology in Canada, and some avenues for research are offered as well as use and access to the Canadian Innovation Data Base of the Science Council of Canada explained.

Bertrum MacDonald: "Agriculture and Plant Diseases in 19th Century Ontario".

Agriculture played an important role in the development of the province of Ontario. 19th Century Ontario farmers contended with plant diseases. This paper presents a discussion of important plant diseases, their effects on 19th century crops, what farmers thought were the causes of diseases, how farmers dealt with them, how scientists described the diseases and what societies, colleges and governments did to prevent or curtail their impact.

W.E. Knowles Middleton: "Radar Development In Canada, 1939-1946".

During the war of 1939-1946 research in radio at the National Research Council expanded enormously, almost entirely in connection with the design and production of radar equipment of many different kinds for the Navy, the Army, and the Air Force. This paper will give a general review of this expansion and illustrate some of the equipment that resulted from it.

Lewis Pyenson and Susan Sheets-Pyenson: "The Formative Years of Canadian Science: J.W. Dawson and his Circle, 1865-1885".

A study of the scientific correspondence of J.W. Dawson, paleobotanist, first president of the Royal Society of Canada, and motive force behind the rise of McGill University -- allows us to describe the genesis of the Canadian scientific community. By analyzing thousands of Dawson letters held in the McGill University Archives we explain how Canadian scientists loosened the bonds that joined them to metropolitan Europe and came to develop the institutions that would dominate Canadian science through the first third of the twentieth century.

Yakov M. Rabkin: "Ecole Polytechnique and Faculty of Engineering of McGill University: A History of Simultaneous Development of Two Engineering Schools in Montreal".

This paper deals with the emergence of two engineering schools in the same city. Both are now over one hundred years old and are comparable in terms of quality of research and teaching. However, in spite of the similarities perceived today the development of each of the schools followed a distinctive path largely as a reflection of the two societies they were to serve (i.e. French-Canadian and English-Canadian). The paper considers the shaping of different institutional cultures which characterize each of the two schools until today and provides historical material for the larger debate about national vs transnational factors in the development of science and technology. The paper concludes with an interpretation of the data which shows the engineering schools as a rare case of two scientific institutions developing in different cultural contexts but within the same macroeconomic and political environment.

Arnold E. Roos: "The Desjardins Canal: A Forgotten Vestige of the 19th Century Canadian Canal Building Era".

The Desjardins Canal is a short stretch of water that extended viable navigation approximately $2\frac{1}{2}$ miles farther west from Burlington Bay at the western end of the Lake Ontario than would normally be possible. In its initial conception it was to be the start of a water transportation network that was to stretch from Lake Ontario to Lake Huron. Technological and economic factors are surveyed to obtain an understanding of why the canal ran into early difficulties and also why by the time it was opened the canal was doomed to failure. The canal did, however, operate till the turn of the century but never managed to live up to the dreams of its founder after whom the canal was named.

R. Bruce Shepard: The Mechanized Agricultural Frontier of the Canadian Plains".

In this paper I intend to examine the impact of mechanically generated power on Western Canadian agriculture and society. Engines powered the plows which first broke much of the prairie sod, and drove the separators which harvested the first crops. As the benefits to be gained became clearer, more farmers sought access to power equipment. There were problems though. Financing was always difficult, and getting enough men to run the early outfits was a problem. The big steamers were prone to starting fires, and both they and the early gasoline engines posed weight problems. The increasing demand for power and the problems the steamers posed were important reasons why gasoline engines challenged and finally overcame their old rivals. Yet they too were eventually replaced when compact, but still powerful engines appeared. Still, it was the early engines which were the first non-animal power sources in agriculture, and as such they laid the foundation for our heavily mechanized farming industry. It was these machines which made the Canadian plains a mechanized agricultural frontier.

Vittorio De Vecchi: "From South Kensington to Indian Head: A Study of the Interaction of Science and Imperialism".

The revival of the imperial idea that took place in the 1880's promoted many initiatives. One of them was the collaboration of a syndicate of Canadian businessmen and politicians with British men of science towards the development of a large farm, scientifically conducted, at Indian Head. In the intentions of both groups of promoters, the experiment was aimed at taking advantage of scientific knowledge and methods in order to make of the Canadian West an imperial extension of a British social group that saw in landed property the backbone of a tory nation. The attempt ended in financial failure; but it can be shown that the subsequent establishment of a federal experimental farm on the land of the collapsed initiative was more than just a symbol of the Canadian government's understanding of the uses of science.

W. A. Waiser: "The Field-Naturalist: John Macoun's Tenure with the G.S.C., 1882-1912".

In 1882, at the age of fifty, the Dream of John Macoun's life was fulfilled with his appointment as naturalist to the Geological Survey of Canada. Deeply involved in the scientific exploration of Western Canada in the 1870's, the amateur botanist now expanded his collecting efforts to include zoological specimens and surveyed Canada from coast to coast for the next thirty years.

The proposed paper will examine John Macoun's tenure with the G.S.C. In particular, it will discuss the nature and extent of his field activities and his contribution to Canadian natural science as distinct from American work. It will also deal with his relations with other scientific societies and institutions and his role in the development of a Biological Division within the G.S.C. Finally, it will outline the importance that he attached to the study of natural history and the purpose of his own work.

RECENT PUBLICATIONS RECENTES

Botany:

Bernard Boivin, "A Basic Bibliography of Botanical Biography and a Proposal for a More Elaborate Bibliography," Taxon 26:1 (February 1977), 75-105.

Communications:

R. Greenhill & A. Birrell, Canadian Photography 1839-1922 (Tor: Cdn. Conf. of the Arts, 1978).

Craftsmen:

J.E. Langdon, Clock and Watchmakers and Allied Workers in Canada 1700 to 1900 (Toronto: Anson-Cartwright, 1976).

Russel Bouchard, Les Armuriers de la Nouvelle-France. Coll. Civilisation du Qué, 21 (Québec: Min. des Aff. Cult., 1978).

Education:

Claude Galarneau, "L'enseignement des sciences au Québec et Jérôme Demers (1765-1835)," Rev. d'Univ. Ott. 47:1-2 (jan-avr 1977), 84-94.

Exploration:

Pierre George, "La contribution des géographes français à la connaissance du Québec des années 1930-1950," Rev. d'Univ. Ott. 47:1-2 (jan-avr 1977), 95-113.