

## E. GORDON YOUNG MEMORIAL SYMPOSIUM

### E. G. YOUNG AND THE ARL

W. W. HAWKINS

When I was asked to pay some tribute to Dr Young in this symposium I was pleased and honored; pleased because of our long friendship and honored because of my high regard and respect for him. I met him in 1939, and during the next 37 years it was my privilege to spend 12 of them with him, first as a graduate student at Dalhousie University and later as a research officer in the Atlantic Regional Laboratory; and in between and afterwards we kept in touch as friends.

E. Gordon Young had the faculty to stimulate and encourage the development of scientific thought in a student if the potentiality was there or if the ability had shown itself. His method was socratic, so the learning process was active. An objective approach with the use of this method is an ideal instrument for the purpose, and those of us who were exposed to it profited from it to the limit of our application and ability.

When man seeks to attain true scientific thought there are two innate obstacles to be dealt with: he is by nature a mystic and his emotions tend to be a great governing factor in his life. The extent to which he can control these two aspects of his being determines in large part the degree and quality of scientific thought of which he is capable. Learning to think objectively in a systematic and orderly way is one of the most difficult tasks that the human mind can set itself, but that is what is required of the scientist regardless of his discipline. The philosophy of science is founded upon objectivity. Whether or not complete objectivity has ever been obtained I do not know, but in my opinion it is a theoretical state. I do not think that man is capable of the necessary degree of ascetic mental discipline. Those scientists who attain an objective quality of thought well beyond the average, therefore, are scientists of an upper class; and E. Gordon Young was one of them.

It is natural that scientists in that class bring the philosophy of science into their personal philosophies, as did Dr Young. As a result, his approach to any concept or problem was predominantly objective and his thinking was analytical.

This quality of thought made it possible for him to cope successfully with research in different fields of his interest and to make his name and work known and respected in fields as far apart as human nutrition and the chemistry of marine algae. The same quality of thought, and his wide ranging knowledge, also made it possible for him to cope successfully with problems of a practical nature that require solution by the scientific method, and his contributions to this aspect of science were notable.

Here, then, was a man who in the first half of this century became known internationally as a versatile scientist of high repute who had earned the esteem of his peers; and he lived and worked in Halifax from 1924 until the time of his death in 1976. On March 30th of that year an editorial in the Halifax Mail-Star eulogized him as follows:

"The death of Dr E. Gordon Young is a reminder that we often are little aware of the distinguished stature of some of the individuals who dwell in our midst. It is the rare good fortune of this part of the country that such a man as Dr. Young made it the scene of his life's work, a work which reflects unmeasured credit upon Nova Scotia as well as upon this nation. As a teacher and research scientist, Dr. Young enjoyed international recognition."

The expression of this tribute is elaborate, but its essential content is true, as those who can judge know.

In 1947 it was announced that the National Research Council of Canada would establish a laboratory in Halifax on the campus of Dalhousie University. In it, research would be done in various fields of science, with particular attention to the interests and problems of the Atlantic provinces. His catholicity of interests, his scientific acumen, and his established reputation indicated Dr Young as a director to be sought; and he became the laboratory's first director in 1950. Details of structure and organization were worked out over the next two years and the laboratory was opened in 1952.

The scientific staff of that laboratory had the advantage and worked under the aegis of Dr Young's scientific outlook for 10 years. Work that produced results beneficial to industry and industrial development was done, but any scientist of Dr Young's calibre understands the fundamentally important relationship that exists between research in applied science and academic research. Consequently, fundamental research had its proper place in the laboratory.

The truly scientific approach to the enlargement of knowledge is disciplined and orderly. It is reasoning from what is known by progressive and ordered thinking to build a valid hypothesis and to select or create a trustworthy method for testing it. This has been called 'curiosity oriented research' by people who do not understand the philosophy of science or the scientific method, or indeed, who may not know that they exist. Curiosity is an element in the process but it is so rigorously controlled that its role is not prominent.

This was an important element in the direction of the work in the Atlantic Regional Laboratory during Dr Young's time as director. It is an element that is fundamental to the scientific process, and because it was properly regarded in the beginning, it was important in the development of the laboratory. Every director individually influences the quality and direction of the work in a laboratory. The importance of fundamental research to both the enrichment of human culture and the successful application of scientific knowledge for the material benefit of humanity characterized Dr Young's influence.