

been of considerable value in the investigation of vitamin function, but this branch of the subject of inhibitory compounds and their uses does not concern us here.

It must not be inferred that it is only necessary to alter the structure of a metabolite in any way in order to produce an inhibitory derivative. Much testing of compounds related structurally to each of the several vitamins has shown that most of these derivatives are biologically inert and definitely not inhibitory in the systems in which they were tested.

On the other hand, there appears to be no unique manner in which the structure of a given metabolite must be altered in order to produce an inhibitory drug. For example, isoriboflavin,¹⁶ 6,7-dichloro-9-ribityl isalloxazine,²¹ and 2,4-diamino-7,8-dimethyl-10-ribityl-5,10-dihydrophenazine,¹⁷ three analogs of riboflavin in which the type of structural change is fundamentally different, all have been shown to produce riboflavin deficiency in various species. Also, Johnson *et al.*²⁰ have called attention to several ways in which the

structure of *p*-aminobenzoic acid may be altered in order to produce bacteriostatic compounds.

Again it must be pointed out that the present work has been erected alongside of a new and dim trail to act as a guiding sign until the road has become a well-traveled highway, when a more substantial and pretentious marker may be raised. Furthermore, it must be stated that no attempt has been made to constrain the view with some of the hypotheses now prevalent which would picture the inhibitory metabolite analogs as competing at enzyme surfaces for the corresponding metabolites. Such hypotheses have served well as guides for further investigation, but at present seem to lack sufficient experimental support to make them more than speculations. The facts, however, must be kept clearly in view. These facts are that certain compounds related structurally to various biologically important substances cause specific signs of deficiency diseases, and that these signs are reversed by the metabolites in question when given in adequate amounts.

OBITUARY

WILLIAM WILLIAMS HENDERSON 1879-1944

FOLLOWING a confining illness of approximately two months resulting from heart trouble, Dr. W. W. Henderson, prominent and beloved teacher at the Utah State Agricultural College for twenty-one years, died on October 31, 1944.

He was born at Clarkston, Cache County, Utah, on May 23, 1879. When he was nine years of age, his parents moved the family to Robin, Idaho, where he was raised on a farm. His natural thirst for learning brought him to the Brigham Young College at Logan, and from this institution he obtained a bachelor of arts degree in June, 1903. Immediately following this, he entered the University of Chicago, later transferring to Cornell University, where he obtained a master of science degree in 1905.

Returning from Cornell University, W. W. Henderson became instructor in biology at the Brigham Young College, serving in this position from 1905 to 1910. From 1910 to 1914, he was principal of the Weber Academy in Ogden.

In 1917, Professor Henderson came to the Utah State Agricultural College as head of the department of zoology and entomology, professor of zoology and entomology and entomologist of the Agricultural Experiment Station. He continued in these positions until 1920, when he became president of the Brigham Young College, serving there until that institution was discontinued in 1926.

Obtaining his doctor of philosophy degree in 1924 from the University of California, Dr. Henderson returned to the Utah State Agricultural College in 1926, resuming his former position. With the exception of one year, 1928-29, when he was on leave of absence, he served the college continuously from 1926 until the time of his death.

Dr. Henderson took a prominent part in all campus activities of a scholastic or professional nature. For years he served as chairman of the attendance and scholarship committee. He aided in organizing and sponsoring such campus organizations as the Genetics Seminar, Zoology Seminar and the Utazoa Society. He rendered valuable service in establishing the Utah State Chapter of the Society of the Sigma Xi on the campus in 1942 and served as its president during 1943-44. He was a member of the Faculty Advisory Council and other faculty organizations and committees.

Dr. Henderson possessed a natural penchant for discovering truth and a zeal for teaching it. He searched for it in its original sources of the great out-of-doors, in the laboratory and in the works of other researchers. He was an earnest courageous champion of all truth and of the scientific method of obtaining it. However, because of the large amount of executive work required of him in most of his positions, he was prevented from doing as much original research as he desired to do. Nevertheless, he made important contributions to science, particularly with reference to the taxonomy of western Orthoptera.

His collection of Orthoptera numbers thousands of specimens and dozens of species that he has collected in the fields, in canyons, on mountains and on the deserts of Utah.

Dr. Henderson held membership in the following honorary and scientific societies: Sigma Xi, Cornell Chapter, 1905; Phi Kappa Phi; American Association for the Advancement of Science; Entomological Society of America; Pan Pacific Entomological Society; American Genetic Association; American Eugenics Society; American Association of University Professors; and Utah Academy of Sciences, Arts and Letters.

Dr. Henderson's greatest contribution was perhaps that which he made in the classroom. He was particularly efficient as a teacher. This resulted from a combination of factors, including his natural capabilities, proficient training, his continuous, thorough and systematic preparation and presentation of subject-matter, together with his sympathetic understanding of student character and problems. His nobleness of character, wisdom, meekness, sincerity, guilelessness, efficiency and friendliness developed in students and associates alike a wholesome respect and sincere affection.

The high esteem and kind affection in which the students of Utah State Agricultural College held this devoted teacher was manifest by their dedication of the 1935 *Buzzer* to him.

To all his work Dr. Henderson brought enthusiasm, freshness and excellence. He was tireless in all his efforts, and his enthusiasm, zeal and devotion to duty

often carried him far beyond the point to which his physical strength should have been taxed.

The interests and work of Dr. Henderson extended beyond the college campus to community, state and national problems.

Dr. Henderson was highly respected and greatly admired by all who knew him. In his passing, the college, the community and the state of Utah have lost a great teacher, a valiant scientist, a sincere friend and a champion of truth.

CHARLES J. SORENSON

RECENT DEATHS

DR. CHARLES FELTON SCOTT, professor emeritus of electrical engineering of Yale University, a consulting engineer of the Westinghouse Electric and Manufacturing Company, died on December 17. He was eighty years old.

DR. ROSCOE CONKLING YOUNG, head of the department of physics at the College of William and Mary, died on November 22 at the age of fifty-nine years.

THE REVEREND FRANCIS W. POWER, professor of micro-analysis at Fordham University, died on December 15. He was fifty-one years old.

THE death is announced of Dr. Charles Anderson, who recently retired as director of the Australian Museum at Sidney. A correspondent writes: "He was primarily a geologist, but was a man of unusually wide interests and training. His services and kindnesses to visiting American scientists were unfailing and unforgettable by those who enjoyed them."

SCIENTIFIC EVENTS

GRANTS OF THE NUFFIELD FOUNDATION

It is reported in *The Times*, London, that the trustees of the Nuffield Foundation, in order to carry out one of its primary objects, the advancement of health, particularly by the furtherance of teaching and research, have offered to the Universities of Durham, Glasgow and Manchester grants amounting to £150,000 to assist them in carrying out plans that they have submitted for the development of teaching and research in industrial health as soon as suitable staffs can be appointed.

These grants will be spread over a period of ten years. Manchester, where it is proposed to create a chair of industrial health, will receive £70,000. Durham has been offered £40,000 for the establishment of a department under a university reader. A similar amount is being allocated to Glasgow for a sub-department of industrial health within the existing department of social medicine.

The Minister of Labor and National Service, Mr. Bevin, has assured Sir William Goodenough (chair-

man of the trustees) of his warm approval of the proposal, which he regards as an important contribution to further progress in industrial health.

A statement issued by the foundation points out that the maintenance of a healthy industrial population involves the provision of greater facilities than now exist for education and research in problems of industrial health. Great Britain has no university department devoted to educational work in industrial health and no facilities for post-graduate training in industrial medicine.

THE NUTRITION FOUNDATION

THE third annual meeting of the Board of Trustees of the Nutrition Foundation, of which George A. Sloan is president, was held in Minneapolis on November 30. At this meeting grants for research of \$127,750 were made.

Since its organization by food and related manufacturers three years ago, the foundation has made appropriations of \$654,700 to support ninety-five sepa-