present in the nuclei of such cells are, like those of normal cells, cell specific; (2) the histones of cancer cells are characterized by solubilities and electrophoretic mobilities which are smaller than those of normal cells. These effects are associated with their greater ability, as shown by their small diffusion constants, to aggregate in solutions more acid than neutrality.

The results also support the hypothesis that histones function as gene inhibitors. It is not proposed, however, to discuss either this point or its obvious implications, for it is clear that, while the results accord with the hypothesis, they do not give final confirmation to it. But it is perhaps not out of place to point out that this work constitutes the first occasion on which a characteristic and qualitative difference has been shown to exist between a known cell component isolated from malignant cells and that obtained from normal cells.

One observation made during the course of this investigation, although it does not form part of the main theme of this article, seems of sufficient importance to be mentioned by way of a postscript. As pointed out by Miller and Miller[7], when rats are fed 3′-methyl-4-dimethylaminoazobenzene, the dye becomes bound to the liver proteins. This binding reaches a maximum in a month and thereafter slowly and continuously diminishes. In the present work, nuclei were isolated from the livers at this particular period and examined. They were found to contain dye. Nevertheless, the histone extracted from the nuclei was completely free from dye, which remained bound to the nuclear residue. If Miller and Miller's statement that deoxyribonucleic acid does not bind the dye is correct, it follows that it must be bound by chromosomin. It is thus possible that the first stage of its carcinogenic action is its attachment to the protein of the chromosomes.

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OBITUARIES

Dr. H. A. Lafferty

HENRY ALOYSIUS LAFFERTY was born at Ardstraw, Co. Tyrone, on May 10, 1891. His early education took place at the local National School; at St. Columb's College, Londonderry; and at the Christian Brothers School, Omagh. He entered the Albert Agricultural College, Glasnevin, in 1908, and in the following year was awarded an agricultural scholarship into the Royal College of Science, Dublin. On receiving his diploma of the latter institution in 1912 he became a research scholar under Dr. Pethybridge, and later was appointed assistant in the Seeds and Plant Disease Division. He held this post until 1921 and was then appointed junior agricultural inspector. On Dr. Pethybridge's resignation in 1923, Lafferty became head of the Seed Testing and Economic Botany Division of the Department of Agriculture, Republic of Ireland, a post which he held until his death.

Lafferty collaborated with Pethybridge for a number of years on investigating potato diseases in the west of Ireland; but he is best known in the plant pathological world by his contributions to our knowledge of flax diseases, in investigations of which he played an important part.

During the First World War flax became an important crop, as linen was then in high demand for aeroplane construction, and foreign sources of raw material were cut off. Scarcely anything was then known about diseases of flax, and the incidence of failures, or partial failures, of this crop due to disease was common. Pethybridge appointed Lafferty to investigate this problem, and no more suitable choice could have been made. Coming from a farming community situated in the centre of a big flax-growing district, and from a family which from the early years of the nineteenth century had been engaged, first, in processing flax and later as flax buyers, Lafferty was familiar with this crop in all its cultural stages and in its preparation for spinning. This knowledge, together with his training in plant pathology, made him the ideal research worker for the job. As a result, during the period 1917–22, all the major maladies of flax in these islands were fully described and the life-history of each of the causal organisms investigated. The published reports of these researches were not only of scientific but also of economic value.

Besides the reports on investigations on flax diseases, Lafferty was joint author with Pethybridge on maladies of potato, tomato and apples, and his scientific investigations gained him the fellowship of the Royal College of Science in 1923, and afterwards the degree of D.Sc. of the National University in 1938.

As head of the Seed Testing Station from 1923 onwards, his duties left Lafferty little time for investigation of plant diseases. The knowledge of these, however, proved invaluable to him in his new post, and especially so as no plant pathologist was attached to the Seed Testing Station. Although severed from practical investigations, Lafferty never ceased to take an interest in plant pathology, and at the International Seed Testing Congress in Rome in 1928, he spoke on the importance of seed-borne diseases—an international problem which is attracting considerable attention at the present time.

He was very successful in his administration of the Dublin Seed Testing Station, and he took a personal interest in every one of his staff. Among the seed merchants he was held in the highest esteem, while the farming community will always be indebted to him for his endeavours to improve the quality of agricultural seeds sold in Ireland. Lafferty published a number of articles relative to seed testing in the *Journal* of the Department of Agriculture, Dublin, and he was a regular contributor to reports of the International Seed Testing Association.

Recognition of his work was shown by his unanimous selection as president of the International Seed Testing Association in Washington in 1950. His retention of this position each year since was a tribute to the efficiency and courtesy with which he carried out his duties. These culminated in his very successful organization of the Society's International Congress held in Dublin in May 1953.

As a debater at meetings, Lafferty had few equals and his personality was outstanding. Following a chat with him in the ordinary course of work, one always came away stimulated.

A few years ago Dr. Lafferty suffered a serious illness. Although afterwards he resumed duties, he never fully recovered his health. Then in 1953 he had a relapse, yet was again back at the Seed Testing Station in June 1954; but his return was of short duration as he soon suffered a further relapse, and he died on July 19. He was predeceased by his wife some years ago, and he is survived by two sons for whom the greatest sympathy is felt. R. McKay

Dr. W. E. Foster

Dr. W. E. Foster, who died on August 3 as a result of a motor-cycle accident, was lecturer in botany in the Durham Colleges, University of Durham. Apart from the period 1945–49, when he was an I.C.I. Fellow, he had held this appointment since 1940, when he went to Durham from King's College, Newcastle upon Tyne. He had done much work on the physiology and biochemistry of respiration, including studies of carbon dioxide zymasis; recently he had been engaged in work on physiological ecology with special reference to the oxygen supply and respiration of marsh plants. He was a gifted lecturer and an inspiring teacher; and his untimely death at the age of forty-three is deeply regretted by his many pupils, as well as by his friends and colleagues.

NEWS and VIEWS

Chemistry at Dundee : Prof. A. D. Walsh

Dr. A. D. Walsh, who is to succeed Prof. D. H. Everett (see *Nature* of March 20, 1954, p. 523) in the chair of chemistry at Queen's College, Dundee, is thirty-eight years of age and since 1949 has been successively lecturer and reader in physical chemistry in the University of Leeds. He received his undergraduate training in Cambridge, entering Corpus Christi College as an Open Scholar in 1935. His first research (with Dr. W. C. Price) was concerned with the measurement of the far ultra-violet absorption spectra of simple molecules, from which it is possible to compute their ionization potentials. More recently Dr. Walsh has greatly extended the range of his investigations in this field in a manner which has added very considerably to our knowledge of molecular structure. During the War his attention was directed to chemical processes occurring in internal combustion engines. From this work his interest naturally extended into the field of spontaneous combustion. Both in the fields of spectroscopy and of combustion Dr. Walsh has made distinctive and original contributions and, because of his capacity for lucid exposition, has been greatly in demand as a lecturer both in Britain and overseas. Although his departure is a serious loss for chemistry at Leeds, he will take with him to Dundee the good wishes of his colleagues and friends for success in his new post.

J. L. Proust (1754–1826)

One of the architects of modern chemistry, Joseph Louis Proust, was born in Angers two hundred years ago, on September 26, 1754. He began his chemical studies in his father's apothecary's shop and later became chief pharmacist to the Salpêtrière in Paris. In 1784 he made one of the first man-carrying balloon ascents with J. F. Pilâtre de Rozier, in whose *musée* he gave lectures on chemistry. From Paris he went to Spain, teaching chemistry at the artillery school in Segovia, and later at Salamanca. He served as director of the royal laboratory in Madrid during 1789–1808, when the Peninsular War ruined his career and the invading French army destroyed his laboratory and collections. It was in Madrid that his greatest and most enduring work was done. The period 1799–1807 witnessed his prolonged and bitter controversy with Jean Claude Berthollet. With brilliant analytic skill and logical reasoning, Proust pointed out some of Berthollet's errors, showed that chemical combination occurs only in fixed proportions by weight, and thereby established the law of definite chemical proportions. In 1805 he demonstrated the presence of dextrose in various natural products, and he discovered leucine in 1819. Receiving a pension from Louis XVIII, he retired to Craon in Mayenne, was elected to the Paris Academy of Sciences in 1816, and finally returned to the town of his birth, where he died on July 5, 1826, aged seventy-two.

Fire and the Atom Bomb

Fire Research Bulletin No. 1, entitled "Fire and the Atomic Bomb", by D. I. Lawson (pp. 30. London: H.M.S.O., 1954; 2*s*. 6*d*. net), deals specifically with the starting of fires by an atomic explosion and is based on a series of lectures arranged by the Home Office in May 1952 for senior fire officers and senior members of civil defence organizations. The report is written in a semi-popular style, and detailed analyses are omitted with the expressed hope that the report will be technically within the reach of a wide circle of readers. Nevertheless, it is not for the layman, and furthermore, since it is based on the official information contained in "The Effect of Atomic Weapons" (U.S. Department of Defense and U.S. Atomic Energy Commission: McGraw-Hill Book Co., 1950) and thus only on the very earliest of atom bombs, it will lose much of its interest even for those qualified to understand its details. The governing principle, as expected, is not to try to prevent all fires as a result of an atomic explosion, but to aim at reducing the fire danger to a minimum. It is important, therefore, to realize that about one-third of the energy of the bomb is released as heat radiation and that the fire danger occurs in the second flash period lasting for about three seconds, during which the bomb gives off an amount of heat equivalent to approximately 7×10^{12} calories. Accordingly, the first half of the report discusses in some detail radiation as a mode of heat transfer, the ignition of materials by an atomic flash and the physiological effect of heat radiation. In the latter half, concerned with fire prevention, attention is directed to fires started by radiation coming through windows. First, inflammable materials inside a room must be kept outside the danger zone and, secondly, the heat radiation must be prevented as far as possible from entering the room by, for example, fixing some incombustible board across the window space. Any board opaque to light radiation will also form a barrier to the heat, and various means of cutting off the radiation without obscuring the daylight are mentioned.