

stances formed in the putrefaction of proteins. The earlier literature relating to the ptomaines—a term now fallen into disuse in scientific nomenclature—is full of errors, and there is practically no evidence that what is called "ptomaine poisoning" is due to poisonous alkaloids: it is rather to be attributed to bacterial infection and is caused by bacterial toxins. Gautier found in fresh tissues a number of basic substances, related to uric acid and creatinine, which he regarded as the products of ordinary metabolism, and to which he gave the name of *leucomaines*, to distinguish them from the products of bacterial action.

A subject which engaged Gautier's attention for some time, and to which he occasionally returned, was the widespread diffusion of arsenic in the animal organism, which led to work on improved methods of detecting and estimating that element in micro-chemical quantities. His speculations concerning the rôle played by arsenic, as well as by iodine, in our organism may be said to be at the basis of modern therapeutics. The question of the influence of the infinitely little on hygiene had, in fact, a special attraction for him. It is seen in his work on the action of the impurities of the air of towns on the public health. He detected the constant presence in air of iodine, as well as of hydrogen; the former, he imagined, was due to the presence of microscopic algæ, the latter to emanations from primitive rocks, volcanoes, and thermal springs.

Gautier, as a biochemist, also engaged himself in questions of plant physiology and on the chemical transformations of various products in the life-history of vegetable organisms. These studies occasionally took a practical turn, as, for example, in his inquiries into the colouring matter of the grape and the detection of the fraudulent colouring and dilution of wine, and into the influence of "plastering," "collage," and fortifying on the weight of the dry extract. The nature of tobacco-smoke also attracted his attention. He found that when tobacco is smoked in a pipe the volatile liquid products consist mainly of basic compounds, among them nicotine, a higher homologue,  $C_{11}H_{16}N_2$ , which pre-exists in tobacco leaf, and a base,  $C_6H_9NO$ , which appears to be related to picoline. Hydropyridines and other alkaloids are also present, resulting from the decomposition at relatively low temperatures of the carbo-pyridic and carbohydropyridic acids present in the leaf.

Gautier was a fellow-worker with Maxwell Simpson in Wurtz's laboratory, and the two collaborated in the study of the action of hydrocyanic acid upon aldehyde. He was an occasional visitor to this country, and represented France at various academic gatherings in London. He was a genial soul, and, as was said of him by M. Deslandres, president of the Academy of Sciences, when pronouncing his *éloge*, remained young in spirit and young of heart until the end.

T. E. THORPE.

By the death of Mr. HENRY BASSETT, F.I.C., at the age of eighty-three, on August 30, we have lost one of the few remaining survivors of that ardent band of young chemists who studied under Dr. A. W. Hofmann at the Royal College of Chemistry. Handicapped at the start by the death of his father when he was only nine years old, Mr. Bassett hail an uphill fight all his life; but he was animated by the same spirit which often enables the poet and the artist to produce good work under most unfavourable conditions. For a time he acted as assistant to Brodie at Oxford, but most of the best years of his life were taken up in testing anthracene as assistant to Mr. F. A. Manning. In 1894, at an age when men more fortunately situated are thinking of retiring, he started a consulting practice of his own, first at St. Andrew's Hill and then at 104 Queen Victoria Street, specialising in non-ferrous alloy and anthracene work. Never lacking in ideas, Mr. Bassett always had some research work in hand, and at intervals, from 1863, he published some seventeen papers and short notes, mainly in the *Journal of the Chemical Society* or the *Chemical News*. Several of these had reference to anthracene testing, into which he introduced some improvements, and on which he was a recognised authority. His most important research was certainly that on ethyl orthocarbonate, which he prepared by the action of sodium on a mixture of chloropicrin and absolute alcohol. This was published in the *Journal of the Chemical Society* for 1864, and may give him a permanent place in chemical literature. Several short papers on chlorides of carbon and one on eulyte and dyslyte may also be mentioned. During the course of his consulting practice Mr. Bassett carried out a considerable amount of research work, notably on the corrosion of manganese and other bronzes by sea water, which was never intended for publication. Of recent years he had been doing some very interesting work on graphite, and until within a fortnight of his death had been trying to get his results into a form suitable for publication.

WE regret to note that the death of Mr. ISHAM RANDOLPH on August 2, at seventy-two years of age, is announced in the *Engineer* for September 10. Mr. Randolph's most prominent work was on the Chicago drainage canal, of which he was chief engineer from 1893 until 1907, and was thereafter its consulting engineer until 1912; this great work cost about 12,000,000l., and has a hydro-electric plant of 40,000 h.p. He was a member of the international board of consulting engineers for the Panama Canal, and occupied many other important public posts. Mr. Randolph was a member of many engineering societies, including the American Society of Civil Engineers. The Franklin Institute awarded him the Elliott Cresson Medal for distinguished achievements in civil engineering, and the University of Illinois conferred upon him the degree of Doctor of Engineering in 1910.