the 'mutation' had not been noticed in France at that date, and there is evidence that in some localities the failure to produce the characteristic perfume was not generally apparent until after 1916.

DURING the years that followed, it was believed that this failure to produce the 'musk' smell might be ascribed to some adverse condition of cultivation, and it was not known how world-wide was the phenomenon until Sir Arthur Hill, director of the Royal Botanic Gardens, Kew, in his presidential address before Section K (Botany) of the British Association in 1930 at Bristol, stated that, as a result of exhaustive inquiries in Great Britain and in western North America, it had been established that plants of musk with the old-fashioned and distinct fragrance were no longer to be found, even in their native habitat. Correspondence with New Zealand shows that the same thing has happened in all the stations where the plant was previously known to have been scented. Periodically reports reach Kew that the old scented musk has been rediscovered; unfortunately, the statements cannot be substantiated, and seeds submitted produce scentless plants or fail to germinate. Many ingenious suggestions have been made to account for the disappearance of the odour of *Mimulus moschatus* Dougl., but, so far, no conclusive theory has been offered.

Cancer Research

THE eleventh annual report of the British Empire Cancer Campaign, presented at the annual general meeting on July 9, contains summaries of a great variety of researches of different kinds, carried on in a number of laboratories and hospitals. Two of them are of particularly general interest. At the Middlesex Hospital, Prof. J. McIntosh has shown that tumours produced in fowls by the action of tar may be filtrable, that is, they may be transmitted from bird to bird by an ultramicroscopic agent which has many of the characters of a virus. In this way, the artificial tumours resemble those which spontaneously occur in birds, and filtrability seems to be a general property of bird tumours, irrespective of their mode of origin. The common-sense interpretation of this is that the virus-like agent arises in the tumour and does not come into the body from outside. At the Cancer Hospital, Prof. E. L. Kennaway, Dr. J. W. Cook and their colleagues have carried their brilliant work on carcinogenic chemicals a good deal further. Having at last identified at least one of the effective substances in tar, they have studied allied compounds and derivatives and have established what may be called a carcinogenic constitution, so that the probable action of any substance may to some extent be predicted from its structural formula. All this helps to rationalise the overwhelming hygienic case against tar and soot as causes of external cancers: it seems possible also that it may explain the origin of some internal cases, for some of the active substances are related to the sterols, bile acids and œstrin, which are normal components of the body. Conversely, as Prof. E. C. Dodds has shown, some substances which produce tumours are also effective in causing œstrus and sex changes in the plumage of birds.

A New Radioactive Element beyond Uranium

THE Czechoslovak newspapers reported on July 5 that an element of higher atomic weight than uranium has been discovered in Joachimsthal pitchblende by Dr. O. Koblic. The element has been assigned the atomic number 93 and its atomic weight has been found to be 240 from an analysis of the silver salt, $Ag(93)O_4$. The new element would be a congener of manganese and of rhenium, which was discovered in 1925. It should thus form an acid analogous to $HReO_4$ and also salts similar to the permanganates and perrhenates. Acting upon the supposition that the sodium salt of $H(93)O_4$ would be very soluble, Dr. Koblic concentrated the mother liquor from the alkali treatment of pitchblende in the extraction of uranium and radium compounds, and the acidified filtrate was precipitated first with silver nitrate and finally with thallium nitrate. This gave the expected $Tl(93)O_4$ as a red crystalline precipitate. It was re-converted into the more soluble yellow silver salt, 115 milligrams of which were obtained. The discoverer has suggested the name "Bohemium" for the new element, which he considers is probably the parent element of protactinium and the disintegration products of the actinium series. It is estimated that crude pitchblende contains about one per cent of the new element. It will be recalled that Prof. E. Fermi, of Rome, who is investigating the products of neutron bombardment of various elements, recently reported the discovery of an element of atomic weight exceeding that of uranium (see NATURE, June 16, p. 898).

Low Temperature Exhibition in the Science Museum

THE Science Museum—the National Museum of Science and Industry at South Kensington—has made for itself an enviable reputation by the special temporary exhibitions held in the past few years to illustrate the progress which has been made in various branches of science and technical industry. The most recent exhibition, which comes to an end on August 31, shows the public the principles and applications of refrigeration. In the original scheme, it was intended to include a few exhibits to show the progress which has been made in very low temperature work from the days when Faraday demonstrated that certain gases could be liquefied. It was soon realised, however, that the subject was too big and too important to be included merely as a branch of the present exhibition, and it was decided to devote to it an independent exhibition. As the result of a meeting arranged by Col. E. E. B. Mackintosh, director of the Science Museum, of scientific workers, industrialists and representatives of Government institutions interested, to consider the proposal, a small committee has been appointed to decide upon suitable exhibits. The exhibition will commence in March 1935 and will be on view for two months. The arrangements will be in charge of Mr. T. C. Crawhall, the officer of the Museum who was responsible for arranging the present refrigeration exhibition.