

except that, as recently stated by Mr. Moore (*Brit. Med. Journ.*, July 8, p. 104), leucocytes or white blood cells are sometimes found within the body of the cancer cells, with which they appear to be undergoing conjugation.

Messrs. Farmer, Moore, and Walker suggest that it is possible that the malignant elements are the outcome of a phylogenetic reversion, but this would not necessarily explain the *invasiveness* of cancer. In spite of recent work, much remains to be done and to be explained before we shall be in a position clearly to understand the cancer process.

With regard to the causes which lead to the production of the gametoid cells in cancer, it has been found that in plants various stimuli will rapidly bring about heterotype mitosis, and, given the proper stimulus, probably any somatic cell may become changed into this type. The connection between chronic irritation and cancer has long been recognised, but the manner in which this factor acts to produce cancer has not been understood; but in the light of the foregoing, it may be regarded as one of the stimuli which may bring about heterotype mitosis and reduction division.

Does recent work hold out a prospect of the discovery of a curative agent for cancer? It cannot be said that our hopes in this direction have been materially increased as yet. At present almost the only hope of cure lies in early and radical operation, and it is of the greatest moment that the public should realise the importance of early treatment, and that no time should be lost in seeking advice. In superficial cancers, the X-rays and radium emanations seem to effect a cure by causing a retrogression or a necrosis of the cancer elements. Possibly the gametoid tissue of the cancer is more vulnerable than the somatic cells, and hence the former may be caused to degenerate or be destroyed without materially injuring the latter, but probably the rays cause proliferation of the connective tissue elements of the growth and interfere with its nutrition. Is it possible that the stimulus of these rays may also act like fertilisation, and causes the gametoid once more to revert to somatic cells, which then being of the nature of a foreign body are partly removed and partly remain inert?

Clowes and Gaylord (*Bulletin of the Johns Hopkins Hospital*, April, 1905) have observed that cancer in mice occasionally undergoes spontaneous retrogression and cure, and the same occurs, but, unfortunately, only too rarely, in human cancer. Clowes found that the blood serum of the mice in which this spontaneous cure had occurred exerted a marked curative action on other mice suffering from the disease. This suggests the possibility that work of a similar nature may eventually lead to the discovery of a means of treating human cancer, but the probability is small, for it is extremely unlikely that the serum of any animal would have the slightest effect on the human being. A spontaneously cured human being would almost certainly have to provide the serum!

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#### BRITISH FRUIT GROWING.

THE report to the Board of Agriculture of the departmental committee appointed to consider what measures can be taken for the promotion and encouragement of fruit culture in these islands has been issued. The commissioners recommend that a special department should be formed to deal with matters relating to the fruit industry, and that this department should be subdivided into (a) a bureau of information; (b) an experimental fruit farm. The desirability of encouraging the practice of gardening

in schools in the rural districts is also alluded to, and this recommendation will be generally concurred in. Legal questions connected with the tenancy and rating of land used in fruit culture are of cardinal importance, as also are those relating to the carriage of fruit by rail and to the alleged unfair treatment by the companies of the home-grower as compared with his foreign competitor. The necessity of further market accommodation is likewise insisted on.

These are all matters of importance, but they do not cover the whole of the ground. We find no reference in the report before us of the influence of the weather on the fruit crops, and yet this is a factor the potency of which outweighs all others. In the case of hardy fruits, not grown under glass, the fruit grower is in the main powerless to contend against adverse conditions. The tabulated reports from every county in the British Islands, which have been published annually for the last forty or fifty years in the *Gardeners' Chronicle*, bear ample testimony to this. Spring frosts when the trees are in blossom occur more or less every year, and when they happen to be severe, as they were this year, the results are disastrous. The reports from the cherry-growing districts of Kent this year show remarkable diversity of yield from farms in the same neighbourhood, a diversity due presumably to differences of shelter and aspect. It is difficult to see how the grower can protect himself from these adverse conditions. Experimental farms such as are recommended by the commission, and of which one is in operation at Woburn under the auspices of the Duke of Bedford, are for the most part of local value only; the lessons they teach may not be applicable in the next parish where the conditions are different.

Can nothing, therefore, be done? We should be sorry to assent to such a proposition. We believe that something could be done. But then arises the question whether, in the face of the vast importations first from the American continent, and when supplies from that quarter are exhausted, from Tasmania and Australia, any steps which the British grower could take would be of any use, commercially speaking? Again, no competition on the part of the home-grower is possible with the banana imports from the Canaries and the West Indian islands, which are assuming such vast proportions, or with the still larger importations of oranges. The case is different when what are termed soft fruits are concerned. We can hold our own with strawberries, raspberries, and currants, whilst gooseberries, especially when picked in a green condition, are among the most profitable crops that a farmer or even a cottager can grow. Spring frosts do them relatively little harm, so that a crop of some sort can generally be relied on.

From a commercial standpoint, when we talk of our home fruit-crops we mean apples or plums, and reverting to the subject of spring frosts we may well inquire whether it is not possible for our experts to raise breeds which shall be immune from injury. Our American cousins hoped for great things by the introduction of Russian apples, and some were tried here also, but the results were not encouraging, as the quality of the fruit was so indifferent that the experiment was not continued. Another lesson from the same source seems more promising. When a few years ago a "big freeze" occurred in Florida, the orange plantations suffered exceedingly. What did our friends do? Did they abuse the fickleness of their climate and take their misfortunes with the resignation of the fatalists? Not so. They set to work without loss of time to raise by means of cross-breeding a hardy variety, and they have at least made a good beginning. So, too, have our friends the

French, who by the cross-fertilisation of the hardy *Citrus triptera* and an ordinary orange have succeeded in producing a hardy variety of that fruit. Matters are as yet only in the experimental stage, but the possibility of success has been demonstrated. There is no reason whatever why our own experimentalists should not succeed with apples and plums. Earlier varieties, later varieties, harder varieties, are all well within the range of possibility, and would be certainly forthcoming if we abandoned our present methods of chance selection and haphazard cross-breeding in favour of careful experiment and rational procedure.

Not only are experimental farms wanted for local purposes, but research stations wherein results might be obtained of universal application.

The Royal Horticultural Society has in its new garden at Wisley, presented by Sir Thomas Hanbury, a splendid opportunity before it, and it is to be hoped that it will not be backward in turning it to account. The fruit farm at Woburn, to which allusion has already been made, sets an example which might be followed and extended with advantage. Already important results with reference to the employment of manures have been obtained there which, though of a negative character, are none the less valuable.

#### NOTES.

THE annual meeting of the British Medical Association began at Leicester on Monday last. On Tuesday, Dr. G. Cooper Franklin, the president for the year, delivered his address, and the association's gold medal of merit was presented to Sir Constantine Holman and Dr. Andrew Clark. The Stewart prize was presented to Mr. W. H. Power, C.B.

THE British Electro-Therapeutic Society is holding a three days' meeting at Leicester this week. The following subjects are announced for consideration:—the present position of the treatment of carcinoma and sarcoma by electrical methods, neurasthenia, the X-rays in the diagnosis of pulmonary disease, and stereoscopic radiography, while a report will be given on the milliamperemeter as a measure of X-ray production.

THE forty-second annual meeting of the British Pharmaceutical Conference was opened at Brighton on Tuesday last. The organisation, it will be remembered, is distinct from the Pharmaceutical Society, and is solely concerned with "the encouragement of pharmaceutical research, and the promotion of friendly intercourse and union amongst pharmacists." The president, Mr. W. A. H. Naylor, delivered his address, and the reading and consideration of papers took place. The meeting terminates to-day.

SEVERAL earthquake disturbances are reported. According to a Central News telegram from Vienna, the seismograph at the Pola Hydrographic Station registered between 3.55 a.m. and 4.17 a.m. on Sunday last the occurrence of a severe and protracted seismic disturbance at an estimated distance of some 3720 miles, and telegrams from St. Petersburg, through Reuter's Agency, state that earthquakes occurred in Siberia at the following places and times:—at Chita at 10.25 on Sunday morning last; at Marünsk, in the Government of Tomsk, at about 9 a.m. of the same day; and at Kiakhta at 10 o'clock on the morning of Tuesday last. An earthquake is stated also to have taken place at Menstrie and Blair-Logie, and to have been felt in other parts of Scotland, shortly after midnight of Sunday last.

NO 1865, VOL. 72]

THE committee appointed in April last to consider the advisability or otherwise of confederating the principal London medical societies has now presented its report (one favourable to confederation), which, with certain minor alterations and additions, has been adopted. According to the *British Medical Journal*, it is suggested that the new society should be known as either the Royal Society of Medicine or the Royal Academy of Medicine, and that at first it should comprise the following sixteen sections:—(1) anæsthetic; (2) clinical; (3) dermatological; (4) diseases of children; (5) epidemiological; (6) laryngological, otological, and rhinological; (7) medical; (8) mental medicine (psychiatry); (9) neurological; (10) obstetrical and gynæcological; (11) odontological; (12) ophthalmological; (13) pathological; (14) State medicine; (15) surgical; (16) therapeutical, including general therapeutics, pharmacology, electrotherapeutics, balneology, and climatology. The hope is expressed that in the early future an anatomical and physiological section may be formed.

THE arrangements for the meeting in London of the International Statistical Institute, which is to take place from July 31 to August 4, are now practically complete. The proceedings will be opened at the Imperial Institute by the Prince of Wales, who will deliver an address. Addresses will also be given by the president of the institute, Dr. von Inama-Sternegg, and by the president of the Royal Statistical Society, the Earl of Onslow, after which the following communications will be presented and discussed:—superficie et population du monde; balance économique des nations; mortalité des grandes villes; statistique de la tuberculose; fécondité des mariages; statistique des transports internationaux; accidents du travail; international comparison of workmen's wages; recensements industriels et statistique du chômage; l'enseignement supérieur; import and export statistics; répercussion des droits de douanes; international agricultural statistics; valeurs mobilières; some subjects connected with pauperism; and discours sur l'avenir de la statistique.

PARTICULARS have been issued as to the arrangements which have been made for the autumn meeting of the Iron and Steel Institute. The meeting will be held at Sheffield from September 26 to 29, and the following papers have been offered for reading:—On the metallurgical department of Sheffield University, by Prof. J. O. Arnold; on the thermal transformation of carbon steels, by Prof. J. O. Arnold and A. McWilliam; on the nature of troostite, by Dr. C. Benedicks; on the occurrence of copper, cobalt and nickel in American pig irons, by Prof. E. D. Campbell; on pipe in steel ingots, by J. E. Fletcher; on steel for motor-car construction, by L. Guillet; on the presence of greenish-coloured markings in the fractured surface of test pieces, by Captain H. G. Howorth, R.A.; on over-heated steel, by A. W. Richards and J. E. Stead, F.R.S.; on segregation in steel ingots, by B. Talbot; on a manipulator for steel bars, by D. Upton; on machinery for breaking pig iron, by C. Walton; on the influence of carbon on nickel and iron, by G. B. Waterhouse.

THE congress of the International Society of Surgery will this year be held in Brussels. The meetings will take place from Monday, September 18, to Saturday, September 23, and will be under the presidency of Prof. Theodor Kocher, of the University of Berne. Among the subjects to be discussed are:—the value of the examination of the blood in surgery; the treatment of prostatic hypertrophy; surgical intervention in non-cancerous diseases of