Dr. Crow must acknowledge that the ductless glands are relatively much larger in the young, where metabolism and growth are very active; anabolism is in excess of katabolism, but the secretions of the glands are in sufficient abundance to limit the lines along which multiplication of the cells takes place, as determined by long years of evolution.

During middle life, the metabolic balance is about even; the glands have diminished in size, as the regulating secretion is not so much required. But after the meridian of life is passed the metabolic balance is again disturbed; katabolism is now in excess of anabolism, and the amount of growth regulator is rapidly becoming less. The critical period is now approaching. Whereas normally the millions of cells which comprise the organism have developed, lived together, and now decay in unison, in cancer, cells which have for a long time been irritated, become mutinous, and decline to decay; on the contrary, they live and flourish at the expense of their neighbours, and in this sense are parasitic. Why is this? Simply because constant irritation connotes constant death and continual replacement, so that the cells at that part are particularly young and robust. Moreover, their functional activities are no longer kept in check by the secretions of the ductless glands, and they become insane. To put it in another way, the irritated cells are differentiated and unlike other parts, and therefore become a centre of unlike reactions to incident forces. I quote Sir James Goodhart:

> Are we wrong to expect that, if a complex body is possessed of energy or many centres of energy for orderly growth and development, this disposition or force will not now and then slip its leash and run off on its own account? An analogy of this kind seems to me to convey a workable conception of a scheme of malignancy, where ordered growth diverges by successive steps of variation, of indulgence in function, until cancer appears, until malignancy becomes the insanity, shall I say, of function.

I hold that the "force" for orderly growth and development is the chemical action of the secretions of the ductless glands. I, of course, agree that there are difficulties in regard to the hormone theory. It is quite impossible to say, for instance, whether the failure of supply of the regulating secretion is or is not due to an all-round and equal degeneration of the glands; and, again, while we may admit that the total functional result of these secretions is perfect metabolism, which means perfect and even growth, there is an intermixture of effects; we do not know how much is due to each gland separately. —I am, etc.,

Wigan, March 16th. J. THOMSON SHIRLAW.

THE FALLING BIRTH-RATE.

SIR,—I notice that one of your correspondents on this subject[1] remarks that "in Paris the deaths from tuberculosis and typhoid fever are, as a rule, two or three times more numerous in relation to population than those in Berlin and London."

No doubt your correspondent is correct in matter of fact, but the implication that the mortality from typhoid fever is heavy is totally mistaken. On reference to the health and mortality statistics issued weekly by the municipality of Paris, I find that typhoid fever caused last week four deaths, as against 3 in the previous week, the average number being 5; 43 new cases were reported, as against 31 the previous week and 36 the average of the season. In a population of some 2½ millions, this gives us a mortality of less than 1 in 500,000 and a disease-incidence of about 1 in 75,000 –a fairly safe risk.

In London's population of 4½ millions I find, for the month of January, 1914, 85 notified cases of enteric fever with 16 deaths, or a weekly average of about 21 cases and 4 deaths.

Of course typhoid fever is a preventable disease, and should be absent from our statistics, but in these days of unlimited expenditure for military and naval purposes and very limited national expenditure on urban sanitation, we must be thankful for small mercies. It is, at least, obvious that typhoid fever is of small account, as a causal factor, in a decreasing or stationary population.

With regard to tuberculosis, I fear that your correspondent is nearer the mark, for in Paris the mortality from that disease totals well over 200 weekly.—I am, etc.,

Paris, March 15th. A. A. WARDEN.

[1] BRITISH MEDICAL JOURNAL, March 14th, 1914, p. 625.

SIR,—Mr. Henry Sewill says I suggested "that there exists some causal relationship between a falling birth-rate and a rising death-rate in France." Yet here is what I wrote: "Even in France the death-rate declines with the birth-rate; moreover, her recently published records for the first six months of 1913 show that there were 8,000 more births than during the same period of the previous year, but that there were 12,000 more deaths; in other words, that a rise of her birth-rate was accompanied by a still greater rise of her death-rate."

It does not surprise me, therefore, that the rest of Mr. Sewill's letter is very much a repetition, with which Malthusians are familiar, of the *répopulateur* misunderstanding of the population question. For example, he says that "the population of France during the past thirty years would have shown a decrease had it not been for immigration." Page 135 of the Registrar-General's seventy-third annual report happens to give France's population, births and deaths for every year from 1881 to 1910. The population in 1881 was 37,590,000, in 1910 it was 39,339,000—an actual increase of 1,749,000. The columns of births when added up make 25,687,627, and the deaths 24,317,527—a natural increase of 1,370,100. Therefore the immigration in these thirty years was 1,749,000 *minus* 1,370,100, or only 378,900 of the 1,749,000 increase.

As Mr. Sewill points out, "The French death-rate has long been, and still remains, much higher than that of any of her northern neighbours." Fortunately, like theirs, it still falls with every decline of the birth-rate. To make it fall faster than the birth-rate, and thereby to quicken her rate of natural increase, France must either increase her food-producing and food-buying powers more quickly or she must imitate Holland and specially reduce the birth-rate among the poor and unfit. She does not seem to have the huge supplies of coal and iron which have enabled her northern neighbours to multiply so rapidly.

Being diffident about taking up more of your valuable space, I beg you will allow me to repeat my offer to give to any doctor interested a copy of *The Small Family System*, recently published, which discusses this subject. I have already replied to a large number of applications for the book and received many expressions of hearty agreement with it. I was as ignorant as the majority of my colleagues are of Malthus's supremely important population doctrine, and of neo-Malthusianism, until my independent essay on over-population happily led me to hear of the Malthusian League. I now realize that an excessive death-rate (that is, over 10 per 1,000 per annum) is due to people begetting more children than they can afford to maintain, and that if the birth-rate of this and other countries were now to become stationary, nothing that medical science could do—not even by discovering a cure for cancer—would prevent the death-rate from becoming stationary. I would like to add that Dr. Drysdale is to read a paper on "The Empire and the Birth-rate," and show his original population diagrams, on Tuesday, March 24th, at 4 p.m., before the Royal Colonial Institute.—I am, etc.,

24, Alexandra Court, S.W., March 14th. BINNIE DUNLOP, M.B., Ch.B.

SALARIES OF RESIDENT MEDICAL OFFICERS.

SIR,—I desire very heartily to endorse the sentiments expressed by "R.M.O." in the JOURNAL of March 14th, and more particularly those relating to the medical superintendents of sanatoriums. It is an extraordinary fact that the salaries of resident medical officers and medical superintendents of sanatoriums are, as a rule, much smaller than those of tuberculosis officers.

Dr. Halliday Sutherland stated recently that to call a building a sanatorium did not make it one, and this is only too true. In any sanatorium, properly so-called, there must be constant methodical medical supervision or else the results obtained will be disappointing or even disastrous. A certain tuberculosis officer who, I may say, acknowledges the efficacy of sanatorium treatment, informed me recently that many of the phthisical patients sent from his dispensary to a neighbouring sanatorium returned in no way benefited. A number, indeed, were rather the worse of the treatment received, or perhaps one should say became worse as a result of the absence of treatment. In the sanatorium referred to, the medical

attendance consists in a practitioner "looking in" once a day.

Again, one not infrequently sees advertisements for resident medical officers for sanatoriums, the remuneration offered being £100 to £150 per annum. Such a salary does not and never will attract men of experience, and a sanatorium without an experienced resident medical officer may be very aptly compared to a motor car without a chauffeur. If, then, local authorities desire to ensure success for the sanatorium part of their tuberculosis schemes the first essential is that in every sanatorium there should be a resident medical superintendent, experienced not only in administration, but also in the treatment of phthisis. To obtain this a minimum salary of £400 would have to be offered. In any tuberculosis scheme the tuberculosis officer and the medical superintendent of the sanatorium are both important factors, but no valid reason can be put forward why the salary of the latter should be less than that of the former. —I am, etc.,

March 16th. M.D.

TUBERCULOSIS MEDICAL OFFICERS.

SIR,—The appointment of tuberculosis medical officers having now become general throughout the country, it has occurred to me that the formation of an association of such officers is a matter worthy of consideration.

If such an association came into existence tuberculosis medical officers would be provided with a means thereby of meeting, and thus have the opportunity afforded to them of discussing together, and amongst themselves, various topics connected with their particular field of labour. This I think would be a most desirable thing. It would tend to their mutual benefit, and also to the advancement of the treatment of the patients of whom they have charge. Cases could be compared, opinions interchanged, difficulties met with in practice discussed, etc.

Local authorities are framing a general attack upon tuberculosis, and the tuberculosis medical officer is the important factor of the authority responsible for the treatment of the disease in their area. With an association such as I suggest a much greater benefit would accrue from the interchange of knowledge thus afforded than by each individual officer working single-handed in his own field. The object of the attack on the disease is to ultimately—and in the shortest possible space of time—stamp it out altogether. We ought to leave nothing undone which will assist us in our efforts to bring about this result.

In such, then, lies the object of my appeal, and I hope to see some expressions of opinion on the matter in reply hereto. If the general opinion is in favour of an association being founded, a preliminary meeting to formally discuss matters in connexion therewith could easily be called. Such an association as I suggest has, I believe, already been formed in Ireland.—I am, etc.,

J. T. CROWE,
Tuberculosis Medical Officer for Leicestershire.

33, Bowling Green Street, Leicester, March 17th.

The Services.

INDIAN MEDICAL SERVICE.

THE PUBLIC SERVICES COMMISSION.

(Continued from page 628.)

BOMBAY.

THE Commission, during its session at Bombay, took evidence concerning the Medical Department on February 13th and 16th. Lieutenant-Colonel C. T. Hudson, I.M.S., Captain H. A. Lafond, and Assistant Surgeon D. E. Kothewala sat as co-opted members, representing the Indian Medical Service, the Military, and the Civil Submedical Departments respectively.

Lieutenant J. E. B. Macqueen, representing the Military Subordinate Medical Department, was the first witness. He stated that his service asked for increased pay and study leave; also that the rules limiting recruitment to Europeans and Anglo-Indians should be enforced, many Goanese Indians being admitted at present.

Surgeon-General R. W. S. Lyons, head of the Bombay Medical Service, thought that Indians entering the Indian Medical Service should have spent two years in study in England. Officers appointed as Professors in the Medical College were fully qualified for their posts, except that they had no previous teaching experience. It would not be practicable to get competent professors from Europe, as they would drop out of competition at home while in India, and on their return would find that their Indian experience told against them, not in their favour. The training given in the Bombay Medical College was superior to that of Calcutta or Lahore, but not equal to that given in England, where teaching staff and appliances were much greater. In Bombay private practitioners had been doing hospital work for some years past, and they would work in the new King Edward Hospital when it was opened. Indian Medical Service officers in the Bombay Presidency had very little private practice. To forbid them all practice would be unfair to the general public. Competition for the service was not so severe as it used to be.

Lieutenant-Colonel J. B. Smith, I.M.S., gave evidence on behalf of the Indian Medical Service in the Bombay Presidency. He said that civil surgeons did not make very much by practice. He said that one civil surgeon made more than 600 rupees a month, one from 400 to 500 rupees, three over 300 rupees, five over 200 rupees, three about 126 rupees, and seven about 100 rupees a month. This gave an average of about 200 rupees.

Assistant Surgeon B. E. Ghaswala, representing the civil assistant surgeons, objected to the title of "assistant surgeon," and asked that the members of his service should be allowed to use the title of "Dr." They also required an increase of pay. Private practice had much diminished of recent years.

Major C. S. Lowson, I.M.S., Inspector-General of Prisons, was in favour of an Imperial Gaol Department. All the prisons in Bombay, except two, had Indian superintendents. Where there were European prisoners, a European superintendent was required. No gaol in Bombay received European prisoners only.

Major F. H. C. Hutchinson, I.M.S., Sanitary Commissioner, complained of the monotony of the work in the sanitary department, the chief duty of which was the supervision and inspection of vaccination. It was essential that this work should be done by medical men. At present sanitary work was entirely subordinated to vaccination. A separate staff should be appointed for vaccination. Sanitary officers, if relieved of vaccination, could do much more important work.

The Bombay Medical Union, a society of Indian medical practitioners in Bombay, submitted a memorial, dated May 1st, 1913, to the Commission asking for "the equalizing the status, privileges, and emoluments of Indian aspirants for the medical services with those of their European compeers, especially in the higher grades." As the means by which this equalization is to be accomplished it suggested the entire abolition of the civil branch of the Indian Medical Service and the substitution for it of a purely civil medical service, recruited in India, to fill all civil medical posts, from that of the Surgeon-General with the Government of India downwards, including all professorships in the medical colleges and all appointments in the sanitary and bacteriological departments as well as the ordinary civil surgeoncies. The representation stated that, under the withering shadow of the "noxious overgrowth" of the Indian Medical Service the Indian profession is dwarfed, that the growth of Indian medical science and research is stunted, and that the members of the Indian Medical Service, with few exceptions, exhibit no capacity for research in tropical disease. The memorial suggested that the military branch of the Indian Medical Service might continue to exist, either as a purely military medical department of the Indian army or as an Indian section of the Royal Army Medical Corps, allowing free exchange with the Home branch, but in either case must be open, as at present, to all British subjects. In criticizing the statement that the civil branch of the Indian Medical Service is necessary as a war reserve, the memorial stated that "a more absurd theory it is impossible to conceive." The memorialists further asserted that none of the men in civil employ could be spared for war service, and that, "so far, not more than two officers have been called on military duty in the largest expedition on record." Lord Morley's dispatches of 1908-09, advocating the substitution of Indian medical practitioners for members of the Indian Medical Service in civil employ, are quoted with high praise, but the changes suggested by the memorial were more sweeping. A subject of complaint is that, owing to the distance and the expense of the journey, the open competition for the Indian Medical Service in England was practically closed to Indians. The memorialists further ask that the professors in the medical colleges, even when recruited in India, should be entirely debarred from general practice, and allowed only consulting practice. The civil surgeons also, even when all Indians, should be strictly confined to consulting practice. As regards the civil assistant surgeons, the memorial points out how low the pay and how poor the prospects are in this service, as compared to those of analogous departments, the Provincial Judicial and Executive Services. The memorial also criticized the Military Assistant Surgeons Service, which is recruited exclusively from Europeans and Eurasians, and serves with British troops only, except that a certain number of its members are in civil employ as a war reserve. The memorialists asked that this service should be amalgamated with that of the Military Sub-assistant Surgeons (formerly Hospital Assistants).

Dr. Sir Bhalchandra Krishna and Dr. Jehangir J. Cursetzi gave evidence on behalf of the Bombay Medical Union, which they said had 189 members. All qualified practitioners were eligible for membership. They had no European members, but "two or three dozen" of their members had European qualifications. They claimed that Indian graduates were fully equal to Europeans, and asked for the entire abolition of the civil side of the Indian Medical Service. That