Register 15/6/21

"COMMUNITY DISEASES."

Interesting Sidelights on Vital Facts.

In the second of a series of University extension lectures on disease, delivered at the Prince of Wales Theatre at the University on Tuesday evening, Professor J. B. Cleland, M.D., discussed what he said might be called "community diseases," whose maintenance depend in great part on the close association together of many individuals. There was a very important way, he said, in which the social system might modify or propagate disease in its ordinary sense—the ease with which organisms capable of causing disease might pass from one individual to another when large numbers of persons were intimately associated. A large number of diseases were directly due to the establishment, usually temporary, of some other living creature in or on the tissues of the victim. In these parasitic diseases the invading living parasite might be vegetable (such as bacteria) or animal. It was not sufficient in the latter cases to know the life histories of the parasite and the host, but study of the life histories of intermediate hosts was necessary; and there were also the parasites of these other hosts, or the creatures that preyed on them, to be considered as possible means of holding the intermediate host in check and so lessening the likelihood of its acting as a disease distrubutor. In malaria control, for instance, a knowledge of the life history of certain small fresh water fishes was important, as these devoured the larvae of disease-carrying mosquitoes, and, by their introduction into the breeding places of these mosquitoes, the number of malaria-carrying insects might be diminished and the incidence of malaria reduced.

—Danger of the Human Herd.—

Man was essentially a gregarious animal, living, as it were, in flocks and herds. This was essential, and enabled division of labour to be carried out in excelsis," from the manicurist to the professional cricketer or white-ant expert; but the arrangement carried with it certain grave disabilities from a health point of view, and among them the facilities which existed for the easy transference of many germs from one to another, and particularly when people associated together in crowds under roofs—as at meetings, in shops, or at dances—or travelled together in crowded tramcars. "If we all lived with our families on country farms," said the professor, "and met our neighbours only occasionally and then across a boundary fence in the open; if we made our purchases by telephone and visited the village only occasionally, our liability to contract certain epidemic diseases that are air-bourne would be greatly lessened. Such advantages do unquestionably appertain to those who live the country life, and many Australians in isolated parts owed their immunity from influenza during the recent epidemic to such wide separation from their fellows. Many have thus grown up in the country without having had measles and without having been exposed to infection from the organisms of this disease. It has been noted, however, as regards measles more particularly, that country recruits during the war were especially liable to contract this disease when it appeared in camps, and were unduly liable to develop severe complications. Such undue susceptibility, it has been suggested, is due to the freedom they have enjoyed from exposure to the germs of measles and to the various bacteria that presumably play a part in its lung complications, with the result that they have developed no protective forces to combat the invasion of these, such as have resulted from the town dwellers having from time to time met with and overcome doses of the organisms insufficient to establish the disease or its complications, but still sufficient to call forth some protective response against them."

—Open and Closed Infection.—

The methods of dispersion of the organisms of community diseases were necessarily very important in considering their control, the lecturer explained. The germ of each disease must in some way escape from its host before it could reach another victim. An infection was said to be "open" when there was an easy means of escape for the causative agent—as an example might be taken the drying pustule of the pock in smallpox, the escape in some way of the organism of influenza by the mouth or nose, and the expectoration of tubercle bacilli from the lungs in pulmonary tuberculosis. The most notable example of a "closed" infection was seen in (say) tubercular glands of the neck or tuberculosis of a joint, provided an exit for the necrosed material had not been established. With the modern system of disposal of the dead, no danger to others could exist as long as such closed infections remained closed.

Certain air-bourne diseases lent themselves peculiarly well to dispersal among the members of crowded assemblies. In influenza it seemed almost certain that the organism, whatever its nature, escaped in some way from the mouth and nose. The parasite, in the light of present knowledge, could not be in gaseous form. Consequently it must be particulate. As all the nasal and oral mucous membrane was covered with a layer of mucus or fluid, the organism in escaping must be surrounded by a film of the menstruum in which it had necessarily been suspended. In ordinary quiet breathing, the outpouring air was free from particles of mucus and its water content was in the form of vapour. Under these circumstances the organism with its attendant mucus could not escape. In speaking, especially in explosive speaking, in coughing, and in sneezing, the increased air pressure necessitated by such acts enabled small pellets of mucus, with presumably the imbedded organisms, to be expelled. These were of such minute size that they might remain suspended in a still atmosphere for quite an appreciable period of time, and in an ordinary atmosphere with its numerous convection currents for many minutes at least. Fortunately, in the case of influenza, two protective factors came in. The influenza organism was probably very easily killed by drying, and, as the pellets of mucus dried rapidly in the air, the method of infection must be more or less immediate, as by the patient talking at or sneezing and coughing towards, the victim; and secondly the dose of the infecting organism must be fairly large, a few germs only being easily overcome, so that dispersal of the germs by air currents, which in the open air might be rapidly achieved, was a further great protection. The professor emphasized the efficacy of suitable masks during the late influenza epidemic. If any one had tried to blow out a lighted match through an influenza mask, he would readily be convinced of the efficacy of these structures.

—How to Stamp Out Measles.—

Plague in one of its forms, and that the most dreaded, might be an airborne disease, as influenza presumbaly was. In the bubonic form, the form usually met with in Australia, the infection was generally a closed one. Measles seemed unquestionably to be an air-borne infection with certain similarities to influenza, as in the tendency to lung complications. Measles did not occur in the lower animals, and was one of the best examples of a community disease. Its maintenance in our midst was entirely dependent on the transmission of the infection from a previous case during the first few days in which such patient was able to transmit infection to a fresh individual who was not immune to the disease through having had it previously. Measles was a complaint that could theoretically be readily "wiped off the slate" of human diseases. The fly in the ointment, however, was this. Measles might be a source of infection to others some time before it was realized that a child had the disease. If we could stamp out the disease in our midst entirely, no further cases could arise among us unless through the introduction from outside of this continent of fresh cases—against which the Federal quarantine measures could reasonably well protect us, although probably to the considerable inconvenience of ships' passengers. It was impossible to try to eradicate measles when it was epidemic; but was there not a possibility of stamping it out during the periods of several years that supervened between epidemics, periods in which the disease was kept alive by attacking relatively few individuals? Although the mortality from the simple disease itself was not high, fatalities from broncho-pneumonia as a complication were frequent. A return prepared some years ago showed that in 1875, a severe epidemic occurred in Australia, and 2,497 deaths were registered as due to measles. In 1876 there were only 46 deaths; in 1877, 11; in 1878, 8; and in 1879 7. In 1880 occurred a relatively mild epidemic with 532 deaths; in 1888 another with 249 deaths; in 1893 the epidemic was more severe with 1,706 deaths; and in 1898, there were 1,314 fatal cases. In the intervening years the numbers were much fewer and sometimes remarkably low. Thus there appeared to have been only three deaths in 1892, four in 1895, and eight in 1896. It seemed probable that during 1892 there were not more than 150 cases of measles in the whole of Australia; in 1895, not more than 200; in 1896, 400; and coming to recent times, in 1909, 1,350. What a golden opportunity we missed, in these three earlier years, stamping out indigenous measles by compulsory notification on the part of of parents as well as doctors, and by enforcing a strict quarantine. Even in 1909 the task would have been comparatively easy, and doubtless it would be so to-day if a suitable inter-epidemic period were chosen; but sooner or later it would almost certainly slip past the quarantine barrier and run riot through the community.

—Trepch Fever.—

In other disease, such as diphtheria and typhoid fever, control was greatly handicapped by some individuals harbouring the germs for long periods of time. In typhoid fever it might be for many years after recovery, or even in some cases by their distributing the organisms without ever having been recognisably ill. The great war unearthed another and hitherto unrecognised community disease of great interest, but of singular repulsiveness. He referred to trench fever, a disabling and painful complaint, but one of low mortality, transmissible by body lice. Until recently this disease had lurked among the great unwashed unrecognised, its home being probably some of the densely crowded parts of Europe. The aggregation of large bodies of men for war purposes, and the proximity of these to each other in the trenches and dugouts, allowed an enormous multiplication of these objectionable insects to occur and to be distributed among a greatly increased number of individualts. This disease, like typhus fever, which was also lice-transmitted, was one obviously of easy control in normal times. The professor went on to deal with the history of smallpox in Australia. The historical interests lay, he said, in this being, strange to say, the first epidemic disease clearly recorded for Australia; in the virulent form of the disease having been introduced on several occasions and after spreading to a definite extent having been controlled and eventually completely suppressed; and in the behaviour manifested by the diffierent epidemics, as regarded the mildness or gravity of the disease.

—Horrible Possibilities of Smallpox.—

"Before dealing with these historical aspects" said the lecturer, "let us consider briefly the prophylactic measures by means of which we can protect ourselves against a possible visitation of the malignant forms of smallpox. It is very necessary that the public conscience should be kept awake in this matter and that vaccination and revaccination should not be neglected. It is true that efficient quarantine minimises materially the danger of re-introduction of smallpox into Australia. With the most able administration, however, it is almost certain that from time to time cases will appear on shore, the infection having passed through the quarantine barrier during the period of incubation, and so not being detectable. Moreover, as a precautionary war measure in the event of future hostilities, adequate vaccination of the community seems to me exceedingly important. I can imagine an unscrupulous enemy, with a machiavellian war-policy, arguing as follows, while meditating an invasion of Australia:—'These Australians have been free from smallpox for many years. Vaccination has been thought unnecessary and superfluous. Very few are now protected against infection. Our troops, on the contrary, are vaccinated. Let us introduce the virus to these, our enemies, so that it may spread among them extensively before they have time to protect themselves by vaccination. Of those that contract the disease the attempts to limit its spread by local quarantine and the interference with ordinary pursuits necessitated by vaccinating every one, will so demoralize the populace and occupy the attention of the authorities that we may make our descent on their coasts with diminished risk to ourselves and good prospects of success. We will introduce the virus as follows. We will secure a number of persons who have been vaccinated when infants but not since. We will expose these to the infections from virulent smallpox cases. Some of them will take the disease in a mild form, and the few vesicles and pustules that appear on them may easily escape observation. We will let these people be captured by the enemy after pretended shipwrecks or during attempted landings. They will infect their unprotected guards, and these their families, and so leaven the whole community with the virus of smallpox. Then will follow our grand invasion.'"

—Smallpox History.—

The lecturer next dealt in interesting fashion with the history of smallpox in Australia. Pockmarked natives, he said, were seen at Port Philip in 1803—probably survivors of the extension of the epidemic of 1789 near Sydney—and Dr. George Bennett described an outbreak among the Wellington Valley natives in 1830. It seemed that there had been three epidemic waves of smallpox manifested among our aborigines. One occurred in 1789, and its origin could not then be satisfactorily explained. It evidently reached Port Philip. The second wave occurred during the thirties of last century, and certainly reached the Wellington Valley and Darling in New South Wales, and the neighbourhood of Adelaide. The third epidemic took place in the sixties, and seemed clearly traceable to importation by Malays. Its spread could be traced subsequently to Central Australia, and even to the Great Australian Bight. If the last epidemic was clearly traceable to a Malay introduction, and was able to spread, although the native poplation was sparse, actually right across Australia to the Bight, it seemed reasonable to attribute the two previous epidemics to a similar origin in the north and a similar spread, in as much as there appeared to be no other likely source of infection. It was, therefore, presumably, pure coincidence that smallpox should have decimated the aborigines of Port Jackson shortly after the arrival of Europeans at that place. The extreme, but exceedingly mild form of smallpox that ran riot through New South Wales a few years ago was well worth stamping out on economic as well as on health grounds. The means of doing this, by notification, and by widespread vaccination, were relatively easy. It would undoubtedly pay us equally well to get rid of other mild diseases, where the measures capable of controlling them were available. Our isolated geographical position made their re-introduction less likely than in Continental areas.

—Where the Public Must Help.—

"From this short review of a few of the more important community diseases," concluded the lecturer, "you will realize how important it is for the public to know something about them, and how they are most likely to be conveyed. In this way they will be enabled to carry out intelligently and successfully the measures recommended from time to time by those responsible for the health of the State. A successful health administration, as regards community diseases, always implies the cordial co-operation of the public themselves in the efforts at control. If the public are apathetic, or unduly ignorant, or perversely obstructive, failure more or less complete must inevitably ensue."

Advertiser 16/6/21

WORKERS' EDUCATIONAL ASSOCIATION.

At a meeting of the executive of the Workers' Educational Association on Tuesday evening the general secretary reported that a letter had been received from the Minister of Education informing him that the request of a deputation that waited on him on May 24, asking for an increased grant of £300 for the continuance of the present University tutorial classes, had been refused. The Workers' Educational Association's work had considerably increased during the last year or two, and it was now carrying on its enlarged efforts in virtue of the fact that an accumulated surplus of two previous years was being used. This surplus would be all expended at the end of this year. The request was for an increased grant to enable the present work to be continued. On account of the shortage in the "public purse" only £300 extra was asked for, and this the Government would not grant. In the circumstances it would be impossible to maintain next year the work that was being done this year. Requests were coming in from the city, suburbs, and country for greater adult educational facilities, and it was hard to have to refuse these.

Herald 16/6/21

Professor Meredith Atkinson has been granted leave of absence by the University Council of Melbourne and will leave for Europe by the R.M.S. Omar on August 10, returning to Melbourne in April. He will undertake an extensive tour of France, Belgium, Germany and possibly Poland, with a view to studying the economic, social and political conditions of those countries. Professor Atkinson will also lecture on Australia under the auspices of various British universities. He has also been invited to deliver a series of lectures in America.

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Professor D. B. Copland, M.A., of the University of Hobart, was to have delivered the annual Joseph Fisher lecture on "Commerce" in Adelaide on Wednesday night, but he was unable, through illness, to fulfil the engagement, and the meeting, at which a paper from him was read, passed a vote of sympathy in connection with his indisposition.