prior to the present century are necessarily incorrect and unreliable, because they are based, for the most part, on the data of deaths alone. The deaths can only be taken as a measure of probable duration of life for any community when the births and deaths are equal and there is no migration, a state of matters which must very rarely happen and be of very brief existence.

Among the many expedients which used to be employed for estimating population was that of multiplying the number of living in which one death was supposed to occur by the number of deaths. That is to say, by guessing at a factor which could only be ascertained by comparing the annual deaths with the number living. Take, for example, the estimates of the population in London made by Graunt, in 1662, on the basis of one death occurring out of every thirty-two living, which made the population to be 403,000. In 1683, Petty, taking the mortality to be one to thirty persons living, made the population to be 669,-930.

Death-rates, even when derived from complete and accurate data and compiled in the most satisfactory manner in the form of life tables, necessarily give only a very imperfect view of the prevalence of disease in a community, or of the relative amount of disability among the people, requiring extra labor by the productive class due to the recurrence of sickness. Many forms of disease which render life more or less of a burden, and some of which totally disable the individuals from earning his subsistence, seldom or never appear in the registers as a cause of death, while even of those diseases which are reported as causes of a considerable proportion of deaths we can rarely at present indicate any definite or certain relation between the number of cases of the disease and the number of deaths reported. For example, it is well known to all practicing physicians that the mortality varies greatly in different epidemics of such diseases as scarlet fever, measles, small-pox, whooping-cough, yellow fever, etc., the variations appearing to depend principally upon the particular conditions of the environment as to temperature, moisture, winds, density of the population, etc., at the time of the outbreak, and also upon particular conditions of the specific virus or micro-organisms causing diseases of this kind.

For the great majority of diseases it is not possible to obtain statistics as to their prevalence among a general population. The only sources to which we can look for information of this kind are the records of the army and navy, of the police force in certain cities, of the employees of railroads, and of the members of certain societies having insurance against sickness. The records of the army and navy are especially valuable in this point of view, but they relate only to males of certain groups of ages and of a carefully selected class of population.

In the last United States Census an attempt was made to obtain on the schedules of the living population the number of those who, on the first day of June, 1880, were so sick or disabled as to be unable to pursue their ordinary occupations. This was the first attempt of the kind which has been made in this country, but similar attempts were made in two censuses in Ireland, in a census of the Australian Colonies, and in a census of Hungary.

It is very improbable that anything like complete returns of sickness will ever be obtained for any large body of the civil population. Such registration will always be confined to infectious and spreading diseases; in other words, those which are known or supposed to be preventable. In order to make a registration of this kind of any great practical value, it must be continuous and compulsory. The plan of endeavoring to get the medical men of a locality to voluntarily contribute this information, even when accompanied by the offer of the payment of a fee, has produced partial and incomplete results, which become more and more incomplete as time goes on and the first enthusiasm in favor of the new plan dies away.

On the part of some members of the medical profession, both in Great Britain and in this country, strong objections are urged to compulsory notification of disease, and especially to that form which requires the doctor to furnish such notification direct to the sanitary authorities. It is urged that such notification is a violation of professional secrecy, that it leads to concealment of cases of such disease and the refraining from calling in a medical attendant, and that it tends to throw the treatment of such cases into the hands of a lower class of practitioners, who are willing to run the risks of violation of the law, or even to make false returns for the sake of securing an increased practice. There is, however, little difficulty in keeping the information furnished strictly confidential, provided the health officer is a man of tact and discretion, and provided also that the press does not insist upon being too inquisitive with regard to matters of this kind.

Any system of compulsory notification, however, which has to be continuously successful involves two things:

First, that the health officer shall not be in any way engaged in or connected with private practice, so as to do away with all reluctance on the part of general practitioners reporting their private cases.

The second is that, to obtain any benefit from notification, special hospital accommodotions for such forms of diseases as are reported must be provided by the community, and there must be a power of compulsory removal of patients to such hospitals in certain cases.

Undoubtedly, valuable statistical data might be obtained by the simple notification alone; but the desire to obtain statistical information will never be accepted as a sufficient ground for legislation requiring compulsory notification.

We hear very much in recent years of the proportion of deaths from zymotic diseases as a test of the salubrity or sanitary condition of a place; but, as there is no general agreement as to what is and what is not a zymotic disease, and as the term rests on a theory of causation of disease which is now definitely abandoned, it should no longer be made use of. It is much better to select the mortality from certain forms of disease, and specify these in order that we may know exactly what we are talking about, and be sure that the matters compared between two localities are the same. English health officers often use the term "seven principal zymotic diseases," by which they mean small-pox