nify that intestinal putrefaction is not present. It has been proposed to make chemical and bacteriological examinations of the stools, but such examinations are not within the reach of many practitioners. Considerable information, however, may be gained from a gross examination of the stools. Aside from these the diversity of clinical symptoms and absence of other findings to account for them must be relied upon to make a diagnosis. Headache and vertigo, according to Hertz, in constipation do not necessarily mean intestinal auto-intoxication. These symptoms may be entirely reflex from pressure of fecal matter in the intestines.

TREATMENT.

To obtain satisfactory and permanent results in the treatment of this condition, all underlying causes must be removed. Animal

proteids except milk and buttermilk must be excluded from the diet. Starches and sugars inhibit putrefaction. Sugars are absorbed quite rapidly, consequently reach the colon only in very small amounts. Alberton has shown that lactose is not absorbed as rapidly as dextrose. Kendall has proposed the use of a solution of dextrose in normal salt solution (2.5 per cent) subcutaneously, in cases of bacteraemias, such as typhoid and dysentery, on the ground that carbohydrates save proteids and lead to the formation of less toxin. Of intestinal antiseptics calomel in 1-40 gr. doses has been found more efficient than any other by the writer. Enemas, thoroughly cleansing the colon, often give excellent results. Hydrochloric acid given after meals is often useful. In regard to lactic acid bacilli and sour milk therapy it has proven little more than a fad.

DISEASE OF THE SOCIAL ORGANISM.*

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Sir Thomas Browne, having in mind the constitution of the human body, said: "We are that bold and adventurous piece of nature which he that studies wisely learns, in a compendium, what others labor at in a divided piece and in an endless volume." Herbert Spencer, quite familiar with the compendium, looked upon the great volume of humanity, saw in its constituent unities and activities the analogue of the structure and functions of the human body, and gave to society the term "Social Organism." In the one he saw the cell as the unit of structure, in the other the individual; in the body he recognized those groups of cells that form the organs, in society those groups of individuals that compose our industrial classes; in the body he saw systems of organs; in society systems of industry; in

both he saw the units, the groups and systems mutually dependent, bound together for common weal or woe. In the nationality of cells and in the nationality of men it is equally and fundamentally true that "we rise or fall together, dwarfed or god-like, bond or free."

CLASSIFICATION OF DISEASES.

In both the cellular and the social organism there are four classes of diseases, distinctive in their distribution and cause: Cellular and individual disease, local and municipal disease, organic and occupational disease, and systemic and national disease in the cellular and social organisms respectively.

Cellular and Individual Diseases.—There is an individuality of disease. Both cells and individuals, the units, vary in their amount of vitality, in their response to the wear and tear

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of life, in their reaction to bacteria and their toxins, and in their ability to withstand the effects of faulty metabolism. So it is that a cell or an individual may sicken and die as a result of individual characteristics and leave their neighbor and offspring physically unaffected. Such a disease is individual in both cause and distribution.

Local and Municipal Disease.—A community of cells or individuals often have, usually have, certain conditions in common by which disease may enter. An injury to a part of the body, a naturally weak blood supply to a particular part, or an injury to, a local nerve may constitute distinctively local conditions through which local disease may originate. In the same way a calamity to a town or city in the form of a flood or fire, a polluted water supply, bad sewerage, contagion through the common utilities, postoffice, schools, churches, etc., may result in a distinctively local disease of the social organism, to which the term "municipal disease" is appropriate. So it is that two neighboring towns or cities, living under identical general conditions, such as climate, soil, etc., may have very different general and special death rates. As one star differeth from another star in glory, so may municipalities differ from one another in sanitary wisdom and administration.

Organic and Occupational Diseases.—Inasmuch as the different organs of our body are subject to special physiological laws, the groups of cells composing any particular organ exist under distinctive conditions. Therefore, any condition, inherited or acquired, which interferes with the operation of these distinctively organic laws, will produce organic disease in the organ involved. Likewise, those organs, groups of individuals, of the social organism, living under conditions distinctive to themselves, become subject to occupational diseases. Industries that have a selective pathological action on women and children, placing a man's burden on the former and an adult's burden on the latter, produce

organic disease in the social organism. Other industries that subject the workers to dust-laden air, poisonous fumes and gases and other disease-producing influences, are productive of organic disease of the social organism or occupational diseases.

Systemic and National Disease.—In the cellular organism there are two systems—the nutritive or circulatory and the governing or nervous system—through which a pathological influence may find its way to every cell of the body. Blood deficient in quality or quantity, imperfectly pumped or distributed, affects the food supply of the cells in general. A disease of the central nervous system affects the entire cellular organism. Likewise, in the social organism, we may very properly recognize two influences through which the majority of the individual units are affected. Certain economic conditions, such as bad crop years, financial crises, resulting from an unwise and undemocratic distribution of wealth, that is, the potential food supply of citizenship, adulterated foods and poisons advertised as remedies may interfere harmfully and extensively with the nutritive condition of our national citizenship. Such conditions make themselves felt in death rates, birth rates, marriage tables and divorce courts. The second influence, with which the first is closely blended, is the influence of the National Government on the health of the individual units which compose it. By national government (I use the word in both the sense of letter and spirit) I mean our national ideals which express themselves in the written law, and in customs, the unwritten but nevertheless potent law. As the former drives by penalties, the latter coaxes with the shadow or substance of future prosperity.

To conclude, we have, from a public standpoint, four principal diseases in the body politic—individual, municipal, occupational and national. As government concerns largely common interest in contra-distinction to individual interest, the public hygienist, at the

present time, does not concern himself with individual diseases.

SYMPTOMS OF DISEASE IN THE SOCIAL ORGANISM.

The recognition, or, if you will pardon a more technical term, the diagnosis of disease in the social organism, like disease in the cellular organism, is dependent upon the presence of certain symptoms. The symptoms are as definite, as characteristic, and as necessary in the true interpretation of disease in the one as in the other. This fact is not sufficiently recognized. Even experts in the study of individual disease are prone to form hasty conclusions, that is, to make "snap-shot diagnosis," by overlooking important underlying or correlating conditions, and so fail to apply proper treatment. If this is true in regard to the students of diseases in the cellular organism, how much more true is it of the public in general who are with praiseworthy activity interesting themselves as never before, in the study of diseases in the body politic.

A symptom may be defined as a departure from the average phenomena of life. Just as the general vitality of the individual is measured in the rise and fall of the pulse wave, so may the general vitality of a community, a town, or people be measured by the rise and fall of their general death rate above or under the average of fifteen per thousand. As we measure cellular aeration or ventilation by the quality of respirations, so we may form conclusions as to the appreciation and use of fresh air by the community, town or people in the rise or fall of the tuberculous death rate over or under the average of 160 per 100,000. Individual cleanliness has its analogue in the body politic in a low typhoid death rate, a death rate under the average of 22 per 100,000. The average maternal intelligence of a community and the sanitary quality of the public milk supply are truly indexed in the rise or fall of the infantile death rate over or under a 100 per 100,000 population. The efficiency of the quarantine service is told in the death

rates from contagious diseases compared with the national death rate for the same class of diseases. Mosquitoes speak of stagnant water in terms of the malarial death rate. The sincerity of the medical profession's support of health laws is accurately indexed in the proportion of deaths to cases of the reportable diseases.

The symptoms of occupational diseases are those that we have already mentioned to which we may add certain special symptoms, such as "phossy jaw" in phosphorus workers, plumbism in painters, and tuberculosis in those working under conditions associated with insufficient ventilation. The diagnosis of occupational disease is more difficult than that of municipal disease. It is more complicated, for the same occupation may be followed under very different local conditions, and the same person may have followed different occupations at different periods of his life. For this reason, it is important that death certificates shall state the length of time in which a decedent has been engaged in the particular occupation which he was following at the time of death.

In the study of national disease, it is manifestly impossible to detect symptoms of national scope through local comparisons; it is likewise useless to endeavor to reach our diagnosis by comparing one nation with another where the conditions of national life may be very different. We must fall back, then, on the only other method of comparison (and symptoms and diagnosis, be it remembered, are nine-tenths comparisons), the comparison of the conditions of national life at different times in our history. Such a method of procedure shows, so far as mere *quantity* of life goes, a favorable condition; but if life is more than meat, we must not be content with quantity only, we must look to *quality* as well. Here we find many evidences of national disease. I may enumerate them as follows:

Defectives, including feeble-minded, insane, blind, deaf, dumb and juvenile delinquents are

estimated to number 3,000,000, or one-thirtieth of our population.

Insanity increased from 183 to 225 per 100,000 in the twenty-three years from 1880 to 1903.

Murder has doubled in the last fifteen years in this country.

Prisoners have increased from 29 per 100,000 of the population in 1850 to 125 per 100,000 in 1904.

Economic conditions in this country are pathologically significant. As the distribution of the food supply to the cells, that is, the distribution of blood in the cellular organism, has a profound bearing on the health of the individual body, so has the distribution of the potential food supply of the social organism, the national wealth, a profound bearing upon the physiological welfare of the body politic. According to Spahr, 1 per cent, or 930,000, of our population are rich; 11 per cent, or 1,200,000, of our population are of the middle class and comfortable; 38 per cent, or 35,000,000, of the population are poor; 50 per cent, or 46,000,000, own nothing; there are 5,000,000 paupers and 10,000,000 people in this country who suffer at some time of their life from poverty.

Divorces have a profound pathological significance for those of us who are interested in the future of our country. One of the four elemental functions of living matter is reproduction. Marriage is that condition of the social organism which permits of physiological reproduction. Anything which interferes with this elemental function of the social organism strikes at the very root of the *arbor vitæ*. Divorces increased in this country in the twenty years from 1867 to 1886, 157 per cent, the population 60 per cent; during the next twenty years, from 1887 to 1906, divorces increased 160 per cent and the population 50 per cent. In this land of the free the restraining bonds of wedlock, the *chordæ tendinæ* of the heart of the social organism, are cast aside and broken more frequently than in all

the rest of the civilized world. In 1905 the United States had *twice* as many divorces as Germany, France, Austria-Hungary, Great Britain, Ireland, Italy, Switzerland, Belgium, Holland, Australia, Sweden, Norway, Canada and New Zealand combined.

IMPORTANT PRINCIPLES IN THE DIAGNOSIS AND TREATMENT OF DISEASE IN THE SOCIAL ORGANISM.

Diagnosis must rest on symptoms. The only symptoms of disease of the social organism are furnished by vital statistics. The fact that vital statistics are so fundamental to health work, and that only two Southern States have become, within the last eighteen months, registration States, makes the question of vital statistics by far the most important phase of the public health question that any Southern assembly can possibly consider.

Dr. William Osler is quoted as saying that only 60 per cent of diagnoses are correct. By this he meant that in only 60 per cent of individual diseases are the principal pathological changes in the body detected and properly interpreted. This is due, in large part, to every student of disease having his pathological "hobby." He is especially interested in certain classes of diseases, always on the watch for them, finds what he looks for, largely satisfies his interests and fails to go further, and in that way frequently overlooks correlated lesions which profoundly influence treatment. Today the tendency to specialization is pronounced and the importance of correlation is not properly appreciated. This same defect in the professional attitude toward individual diseases has its prototype in the attitude of sanitarians and sociologists toward disease in the social organism.

This tendency to specialization is indicated in the excessive number of special organizations seeking a common end, the uplift of our national life. For example, there are in my own field organizations for the study and prevention of tuberculosis, for decreasing infantile death rate, for preventing pollution of

streams and rivers, the Conference of Secretaries of State Boards of Health, the American Public Health Association, the Section on Public Health of the American Medical Association and others, not to mention the many organizations and meetings of those engaged in sociological work in other lines. With all these divided activities it is well for us to remember that during the last fifty years the symptoms of national deterioration, which I have already pointed out, developed alongside a growing church and school. That while we have improved the conditions of life, there is little to show that we have improved life itself. The cry of the time is for coordinated sociological effort. It is true that there are several kinds of phagocytes in the body, and each has its

special function, but they all exist under a common government, and but for coordinate action disease would more often fight its way to the citadel of life. So must we, the phagocytes of the social organism, form a more compact defense to the common foes of humanity.

And now allow me to close this paper with one definite suggestion. Let us go home and secure the signatures of twenty-five, fifty or a hundred of the most prominent and influential sociologists of our respective States, calling a meeting of the divided forces, for the purpose of forming next fall a State Sociological Association. Such an organization will find its work, and this, the first meeting of the Southern Sociological Congress, its abundant reward.

THE DIAGNOSTIC VALUE OF THE CYSTOSCOPE AND ITS ACCESSORIES.*

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Approaching this subject from the surgical standpoint, I shall include among the accessories the ureter catheter, the radiographic catheter, collargol solutions, functional kidney tests, chromocystoscopy and the X-ray.

By reason of the complexity of the urinary tract, and of the well-known tendency for pain and discomfort along the urinary passages to be referred to points other than the seat of the disease, various questions arise in every case, both in regard to the nature and location of the lesion.

Before the invention of the cystoscope these questions could rarely be properly answered, but with the development of cystoscopic technique the problems have become simplified, and the employment of each of the accessories above mentioned has added its part to the accuracy and certainty of our measures of diagnosis and prognosis, until, at the present time, the exact nature, location and extent of most

surgical lesions of the kidney, bladder and ureter may be positively established.

Instruments now in use render cystoscopy and ureteral catheterization and the use of the accessories as easy in the male as in the female, while the salpingoscope, an instrument devised for the use of rhinologists, but appropriated by cystoscopists, renders successful cystoscopy possible in very small children if the necessity for it arises.

Present technic permits of the most complete examinations, in nearly every instance, under local anesthesia.

Two general types of instruments for use both in the male and female are employed, the one with direct and the other with indirect view. Either is satisfactory. I shall not mention the well-known method of Kelley.

At the Mayo clinic one sees preference given to the direct view instrument, while at Hopkins, in Young's clinic, the instrument

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