the temperature is rising. Most observers found that the respiratory quotient (vol. $CO_2 \div$ vol. O) is the same in fever as in health, but Regnard,* one of the most competent, says that it is diminished, which would mean that the character, as well as the amount, of metabolism was affected in fever.

Such experiments as these give valuable information about the chemical processes in the body during fever, and show that in fever there is increased oxidation, and hence increased heat production, as a rule; but they do not settle the question at issue between Liebermeister and Traube, viz.: "Does heat dissipation enter as an essential factor?" This can be answered only by direct calorimetry, as pointed out by Senator † when he undertook the first thorough series of investigations on the subject.

Leyden had already made this question the subject of calorimetric research, but his method was the unsatisfactory one of partial calorimetry by baths.‡ His results, however, were in harmony with those of Senator and of Wood, in 1880, the latter's experiments being the most complete we have in calorimetry on fever. These observers all find that both heat production and heat dissipation play an important part in fever, thus showing that each of the older theories of Liebermeister and of Traube was partly right, but neither entirely so. This position has been substantiated by practically all later investigations. Our present views concerning the general pathology of fever cannot be better given than by the following quotations from some of the numerous generalizations of Wood: §

(*a*) "The rise of temperature in fever is not dependent altogether upon increased heat production, as in fever there certainly is sometimes less production of heat in the organism than there is at other times when the bodily temperature remains normal; also excessive heat production may occur even at the expense of the accumulated materials of the organism without elevation of the body temperature."

(β) "In fever a daily temperature variation occurs which is parallel to that seen in health, and differs from the normal variation only in having a higher mean."

(γ) "In fever vaso-motor paralysis, when produced, is followed by an immediate fall of temperature similar to, but greater than, that which is produced by a like disturbance in health."

(δ) "The decrease of heat production which follows section of the cord is much greater in the fevered than in the normal animal."

(ε) "The so-called inhibitory heat nervous system is not paralyzed in fever, but is less capable than in health of answering promptly and powerfully to suitable stimuli; in other words, it is in a condition of paresis or partial palsy."

(ζ) "The clinical succession and phenomena of a febrile paroxysm, such as that of an intermittent, seem plainly to depend upon the nervous system for their arrangement and relation."

(η) "Irritative fever, if it exists, is produced by an action of the nervous system."

(θ) "Fever occurring in cases of blood poisoning is often, and probably always, the result of a direct or indirect action of the poison upon the nervous system, and hence is a neurosis."

According to Mosso,‖ there are two kinds of fevers: one produced by the nervous system, and one independent of the nervous system, which has its origin in the tissues themselves. He claims that cocaine produces fever through the nervous system; while cultures of staphylococcus pyogenes aureus, injected into the blood,

* Regnard, "Recherches expérimentales sur les variations pathologiques des combustions respiratoires," Paris, 1878.
† Senator, "Untersuchungen über den fieberhaften Process," etc., Berlin, 1873, p. 2.
‡ See § 4, "Calorimetry by Baths."
§ Wood, "Fever: A Study in Morbid and Normal Physiology," Philadelphia, 1880; also "Smithsonian Contributions to Knowledge," No. 357, pp. 254 et seq.
‖ Mosso, Arch. Ital. de Biol., 1890, vol. xiii., p. 483.

produce fever by direct action on the tissues. He has found that chloral will prevent the rise of cocaine fever, but is without effect on the fever produced by the staphylococcus.

This question of the probable different origin of different fevers is an exceedingly interesting one, and would afford a fruitful field for further research. Certain drugs will influence one kind of fever but not another, and a careful study of this question would throw light not only on the action of drugs, but on the pathology of fever itself.

Before leaving the subject of calorimetry in fever, two clinical papers should be mentioned, since each was written with direct reference to previous calorimetric work, and deal with the relation of the nervous system to fever. After reading them, one can scarcely doubt that "fever of purely nervous origin" exists. The papers are those of Drs. Hale White and Mary Putnam-Jacobi.* White,† after a masterly review and synopsis of fourteen cases of lesions of the central nervous system, with clinical history and post-mortem findings, concludes that the results of Wood's experiments on dogs are corroborated by clinical and pathological observations on man.

§ 7. Calorimetry in Experimental Pharmacology.—In this section it is not proposed to discuss the physiological action of the drugs and poisons considered, but simply to show which of these substances have been investigated by direct calorimetry, and what direct calorimetry has done for medicine along this line. Unfortunately, many of the findings which will be mentioned are based upon too few experiments, so that the value of this section will be to call attention to work thus far completed, and needing, for the most part, corroboration, rather than to show positively established facts in connection with the drugs or poisons. Only researches employing direct calorimetry are mentioned.

Drugs.

Antifebrin.—Hare [1] finds that antifebrin reduces normal temperature, and in so doing affects both heat production and heat dissipation.

In fever it reduces pyrexia chiefly by decreasing heat production. It seems to have little effect on pepsin fever (see Pepsin, this section).

Antipyrin.—Wood, Reichert, and Hare [2] find that antipyrin lessens heat production independently of any action on the circulation. They think it influences the chemical changes in the body through the nervous system, especially the heat-inhibitory centre.

Girard [3] found that a lesion (*piqûre*) on the median side of one of the corpora striata produced less effect after giving antipyrin than before.

Martin [4] destroyed Ott's inhibitory heat centre, and found that antipyrin produced an increase of heat dissipation, the same dose not always giving the same quantitative results. Heat production was reduced in four out of six cases. He compared hydroquinone, antipyrin, thallin, and kairin, and all gave the above result. "As a rule, heat production followed heat dissipation, in its ups and downs, although the drugs sometimes reversed matters," especially antipyrin.

Gottlieb [5] attributes the fall of body temperature, after antipyrin, exclusively to increased heat dissipation. He says there is no concomitant diminution in heat production.

Atropine.—According to Ott,[6] atropine causes increased heat production and increased heat dissipation, the effect on heat production being the greater—consequently temperature rises.

Lewis [7] finds that small doses of atropine produced increased heat production and diminished heat dissipation, while with large doses the temperature fell with increased heat dissipation in spite of increased heat production.

* Jacobi, Journ. of Nerv. and Ment. Dis., 1890, vol. xvii., p. 373.
† White, Guy's Hospital Reports, 1883-84, vol. xxvii., p. 48.

Caffeine.—Reichert [8] finds that, under caffeine, heat production is always increased, while heat dissipation is not affected in any constant way. Curare modifies but does not check the action of caffeine.

Carbolic Acid.—Hare [1] (p. 525) gives a summary of his work with carbolic acid as follows: "Carbolic acid possesses considerable power in lowering normal bodily temperature. It possesses more influence over pyretic temperature than does salicylic acid, generally preventing a rise or causing a fall of temperature, but sometimes failing to do so. Its mode of decreasing normal bodily temperature is as yet not fully understood, although it would seem probable that it acts on both heat functions. When reducing bodily temperature in fever, it acts chiefly by decreasing heat production, although it affects both functions."

Chloral.—Bevan Lewis [7] says: "Hammarsten's statement that the rapid fall of temperature is dependent upon diminished heat production . . . is, I consider, fallacious; in fact, all my observations tend to confirm the statement previously made, viz., that the heat production is greatly increased, and that the fall of temperature is really dependent upon the increased dispersion of heat from the body, ensuing from exposure during very general vascular dilatation."

Cocaine.—As the result of a very complete research Reichert [9] finds that cocaine increases both heat production and heat dissipation. Its action on heat production is much the greater, so that temperature rises. Curare seriously interferes with the action of cocaine.

Curare.—See experiments of Kemp and of Reichert, § 5, Calorimetry in Physiology.

Ergotine.—Ergotine, according to Bevan Lewis,[7] produces a fall in heat production, with fall in temperature, followed by a rise in both.

Hydroquinone.—See Martin's [4] "Researches on Antipyrin," above.

Hyoscyamine.—Bevan Lewis [7] found that hyoscyamine always produced great commotion in heat production and heat dissipation, but no constant effect could be ascribed to it.

Kairin.—See Martin's "Researches on Antipyrin," above.

Neurin.—Ott [10] found that neurin produced fever by action on the nervous system independently of the circulation.

Pepsin.—Many forms of commercial pepsin, when rubbed up with water or salt solution, and injected into the blood, produce a decided fever apart from their action on the circulation. This fever is the result of an effect on both heat production and heat dissipation, the former being the more affected. The active substance in these cases is not pepsin, but proteoses and peptones, which are found along with the pepsin (see Ott,[10] and Wood, Reichert, and Hare [2]).

Peptone.—See Pepsin, above.

Proteoses.—See Pepsin, above.

Phenol.—See Carbolic Acid, above.

Picrotoxin was found by Bevan Lewis [7] to increase, enormously, heat production. The effect lasted longer than that of strychnine. Heat production then fell to a minimum just before convulsions set in.

Quinine.—Wood, Reichert, and Hare [2] investigated the action of quinine with the calorimeter, and found both heat production and heat dissipation to be affected. We quote them as follows: "We do not think that our results are sufficient to positively determine whether heat production or heat dissipation is the function which is primarily influenced." They think that quinine's chief value is due to its "stimulating or restoring the normal tone of the centres which are connected with thermogenesis, so as to enable them to resist the morbific fever-producing influences.

Another author * finds that doses of 0.1 to 0.2 of quinine lower the heat production in rabbits. In normal animals the diminution is from eight to eighteen per cent., in animals with fever from *piqûre* the diminution may be as high as forty per cent.

* These observations were found among the writer's notes without a reference to the original paper.

Salicylic Acid.—Hare [1] finds that salicylic acid can reduce normal temperature slightly; it has little power over the temperature in fever. In reducing normal temperature it probably acts on both heat production and heat dissipation; its action on fever is uncertain and irregular.

Solanine.—This alkaloid was studied by Bevan Lewis,[7] who found that its vaso-motor effect produced diminished heat, dissipation of heat, with consequent rise of temperature. This rise took place in the face of an enormously reduced heat production.

Strychnine.—Bevan Lewis [7] found that strychnine increased heat production—the best effects were from small doses. Chloral counteracts the effect of strychnine.

Thallin.—Martin [4] found that thallin regularly increased heat dissipation, but had no constant effect on heat production (see also Antipyrin, above).

Bacterial Poisons.

Tuberculin.—D'Arsonval and Charrin * found that tuberculin raised the rectal temperature and at the same time diminished heat production.

Pyocyaneus (bacillus).—Certain poisons produced by this bacillus had the same effect as tuberculin mentioned above.*

Pyogenes aureus (staphylococcus).—See account of Mosso's work in § 6, Calorimetry in Pathology.

George T. Kemp.

[1] Hare, Ther. Gaz., 1887, p. 389.
[2] Wood, Reichert, and Hare, Ther. Gaz., 1886, p. 811.
[3] Girard, Rev. méd. de la Suisse Romande, 1887.
[4] Martin, Ther. Gaz., 1887, p. 289.
[5] Gottlieb, Arch. f. exp. Path. u. Pharm., 1891, vol. xxviii., p. 184.
[6] Ott, Ther. Gaz., 1887, p. 514.
[7] Bevan Lewis, West Riding Asylum Reports, 1876, vol. vi., pp. 43-64.
[8] Reichert, Ther. Gaz., 1891, p. 249.
[9] Reichert, Univ. Med. Mag., 1889, vol. i., p. 448; and Ther. Gaz., 1891, p. 249.
[10] Ott, Journ. of Nerv. and Ment. Dis., 1884.

CALYCANTHUS.—(Properly *Butneria.*)—A genus of three species of shrubs in the family *Calycanthaceæ*, growing in the United States. The bark and leaves of *B. fertilis* (Walt.) Kearney, commonly known as the sweet-scented shrub or strawberry shrub, are used in domestic practice as an antiperiodic. The plant is chiefly of interest because of the poisonous nature of the seeds, sheep being killed by eating the fruit. An alkaloid, calycanthine, has been extracted by Dr. R. G. Eccles from these seeds.

H. H. Rusby.

CAMDEN, S. C.—Situated in the pinewood, sandhill region of the State, about 30 miles from Columbia and twenty hours from New York. It is a town of 3,500 inhabitants, between 150 and 200 feet above sea level, and is a winter health resort particularly suitable for cases of pulmonary tuberculosis. The soil is very dry and porous, so that after a heavy shower the roads are not wet, the water quickly soaking into the sandy soil. The water supply and drainage are said to be good and the accommodations excellent, there being two hotels and a number of boarding-houses. The climatic data are as follows:

Mean temperature (Fahrenheit): spring, 61.90°; summer, 79.32°; autumn, 62.26°; winter, 45.16°. Average annual rainfall for twenty years, 42.22 inches. The coldest noon temperature in February, 1890, was 50°; in March, 40°; in April, 50°. The warmest noon temperature was: in February, 83°; in March, 81°; in April, 86° (Solly). The prevailing winds are south and southwest. In February and March there are some high winds, but generally the air is remarkably soft, dry, and balmy.

* D'Arsonval, Arch. de Physiol., 1894, p. 362.

"Frosts occur at night only, and snow is exceptional." The exact number of sunny days is not known, but is said to be large. The relative humidity, though not known for this place, is probably not very different from that at Aiken, which is 59 per cent. for December, January, and February.

The especial advantages claimed for this region as a health resort are "its dry, balmy, bracing air, with conditions favorable for constant out-of-door life"; its dry, sandy soil; the pines, and its easy accessibility.

Camden would appear to be a good resort for the open-air treatment of pulmonary tuberculosis, for cases not suitable for the colder regions or altitudes; also for convalescents from influenza, pneumonia, or pleurisy, and for those who merely desire to escape the dampness and cold of the Northern winter. *Edward O. Otis.*

CAMP DISEASES.—There are no diseases peculiar to the soldier, but those by which he is chiefly affected are such as not infrequently occur among males of the military age in civil life. The conditions of military service, however, are often such that various factors predisposing to deviation from the standards of health are greatly increased in potency; while the directly exciting causes often operate much more frequently, act over longer periods, and, in the case of infectious diseases, not rarely assume greater virulence. Since all these diseases have their counterparts in civil life, any extended discussion of their etiology, pathology and symptomatology is unnecessary in this connection; and the treatment of such diseases also varies in no wise from that employed by the more advanced members of the medical profession throughout the civilized world. There remains, then, for discussion the relative importance of various diseases as affecting the health of troops; the predisposing causes, in so far as they are influenced by military service and conditions; the special methods of infection and the dissemination of infectious material; and, finally, the means of preventing such diseases, as based chiefly upon the special military conditions by which the occurrence of the disease is favored or brought about.

Excluding traumatism, the causes which chiefly impair the health and efficiency of troops, in garrison or during campaign, may be grouped according to their relative importance, as follows:

1. Diseases of an infectious character, the spread of which, in the military service, is favored by the aggregation of young and susceptible individuals, ignorant or careless in regard to matters of personal hygiene, living under conditions implying intimate personal relationship, constant contact and, frequently, overcrowding. In many instances the necessities of military service require an existence in unhealthful localities, favorable to the development of pathogenic micro-organisms and under circumstances in which their opportunities for dissemination and entrance into the system are much greater than in civil life. In addition, the occurrence of these diseases is also often markedly favored by depression of the powers of vital resistance, depending upon great fatigue, exposure to inclemencies of weather, insufficient or improper food, impure water and vitiated air. These diseases assume far greater importance during active service in the field than in garrison, being the chief cause of inefficiency among troops during campaign.

2. Diseases due to immoral or intemperate habits; as favored by an enforced celibacy, the absence of wholesome home restraint and the monotony often attaching to garrison life. These diseases are factors of the first importance in time of peace in raising the sick rates of an army, but during active warfare or field service they sink into comparative insignificance.

3. Diseases the causative agents in which are unknown, but which appear to be largely excited by exposure to cold, wet and dampness, whether they be found in camp or garrison. These affections have but little tendency toward a fatal result, and their importance from the military standpoint lies in the considerable proportion of temporary unfitness for service which they produce. The number of soldiers who are temporarily incapacitated for all or part of their duty, from these causes, is always large.

4. Affections due to extremes of temperature. Such are obviously related to climate and season, and are largely influenced by nature of service; being naturally much more frequent among troops on campaign than among those in garrison.

5. Disease due to an improper dietary; this being largely dependent upon facility of supply and transportation, and hence being obviously more frequent among troops on active campaign or serving at remote, isolated, and newly established stations.

6. Disease directly induced by military service. This may be of a functional or organic nature, and is largely dependent upon the muscular labor involved in the execution of military movements, the method of disposing the equipment upon the person, and the mental condition often resulting from field service and conflict. Pathological conditions of this character are rarely observed in garrison, but are by no means infrequent during campaign.

In the detailed consideration of the diseases of the soldier, it is obvious that only such as exert a certain positive influence upon military efficiency require discussion. To consider a number of rare affections, from the liability to which the soldier is no more free than the young man of the military class in civil life, and upon the occurrence of which military service appears to exert neither positive nor negative influence, is clearly both unnecessary and undesirable.

I. Infectious Diseases.

Asiatic Cholera.—*Occurrence.*—The military history of cholera begins with the year 1757, when the British troops in India suffered greatly from its attacks. It is said that one division of 5,000 men had 500 deaths from cholera in a single day. In 1817, according to Rosse, in a force under Hastings the onset of a cholera epidemic was so sudden that sentries fell as if struck by lightning, and it required three or four men to stand a tour of guard duty of two hours. In five days there were 5,000 deaths, and the command was almost destroyed. In 1821, cholera made such ravages in the armies of Turkey and Persia that it forced military operations in Mesopotamia to be brought to an end. In the years 1830–1831 cholera extended all over Europe and was shortly afterward brought to this country. Troops were attacked at a number of stations. At Fort Dearborn, on the present site of Chicago, it is stated by Rosse that 200 men out of a garrison of 1,000 were admitted to hospital with cholera in the course of seven days. During the Crimean War there were 7,375 cases of cholera in the British army, with 4,513 deaths. In the French army, at the same time, there were 12,258 cases with 6,013 deaths. Among the French troops composing the ill-fated Dobrutscha expedition, it is said that at one time no less than 10,000 men lay dead or struck down by cholera. Out of one battalion, besides those already dead, 500 sufferers were carried in the wagons. Coustan states that in one division of 10,590 men there were 2,036 deaths. In 1866, during the war between Austria and Prussia, more deaths occurred from cholera, in the armies of the latter country, than resulted from battle. At the close of the Civil War our troops suffered severely from cholera; there being, in 1866, 2,813 cases and 1,269 deaths. In 1867 there were 504 cases and 230 deaths, and in 1868 there were 7 cases and 3 deaths. Cholera almost destroyed a body of recruits marching from Leavenworth to Fort Hays, in Kansas, and was also epidemic at Fort Riley and other stations. It was carried by recruits from New York to California, Louisiana, Texas and Georgia. In 1866 it also broke out in Brazil and the Argentine, and was carried by the armies into Paraguay. In the outbreak of 1873, in this country, our army was little affected, there occurring but 12 cases with 8 deaths; and since that year there have been no further deaths from this cause in our service. The

French army has suffered with the civil population during the various outbreaks of cholera in France and Algeria. Rosse states that in Paris, for the period 1832–49, and again in 1853, the mortality from this cause was 14.76 per thousand among the civil population, and 42.59 per thousand among the garrison troops. In many later instances, however, especially in the outbreaks of 1884 and 1893, the greater care as to sanitary conditions in the military service preserved the soldiers, while deaths occurred in the surrounding civil population. In the British army, during the decade 1888–97, cholera occurred among troops in India, Egypt, China, and Ceylon. In India, for this decade, the admission rate per thousand was 1.8; the death rate, 1.29. Cholera figures almost annually in the returns for the Russian army, certain military garrisons of which are located in regions at which the disease endemically prevails. Recent figures for cholera in the Russian army are as follows:

	Admissions per 1,000 strength.	Deaths per 1,000 strength.
1890	0.06	0.02
1891	—	—
1892	4.3	1.83
1893	1.61	.46
1894	1.00	.35
1895	.40	.10
1896	.01	.002

Dissemination and Infection.—The specific causative agency in cholera is given off chiefly by the bowels, and to a less degree in the vomitus. The length of time during which the stools of a cholera patient are infectious is unknown, but it probably is a considerable period. As with typhoid fever, apparently healthy persons appear at times, during an epidemic, to act as hosts for the bacilli and play a part in the propagation of the disease. While the disease at times follows contact with the sick, it may fairly be regarded as only slightly contagious and not likely to be contracted except by indirect infection. The latter undoubtedly occurs by way of the alimentary tract. There is no proof that air ever serves as the vehicle for the transmission of cholera bacilli; though in this disease, as in typhoid fever, its dissemination by this means should be regarded as possible. Water has long been recognized as the chief agent in the spread of cholera; and abundant circumstantial evidence to this effect is fortified by a number of instances in which the specific etiological factor has been discovered in suspected water by bacteriological investigation. Many instances have been reported in which the infection of a water supply was followed by outbreaks in communities further down the stream. In the epidemic of Hamburg, in 1892, the part played by an infected water supply was most marked; the proportionate number of cases being eight times greater in that part of the city in which unfiltered water was supplied, than in the part in which the drinking-water was partially purified by sand filtration. Recently, among the British troops at Umballa, in India, an epidemic of cholera promptly ceased as soon as a supply of sterilized water was provided for drinking purposes. Cholera bacilli flourish best in sluggish streams, and especially in water containing a considerable proportion of organic matter. Under certain circumstances, not as yet fully understood, the bacillus is capable of rapid multiplication in water, but many saprophytic micro-organisms are hostile to its development and appear to destroy its vitality in the course of a few hours or days. Any specific contamination, however small, is capable at times of imparting to enormous quantities of water the power of originating the disease. Earth undoubtedly may serve as a medium for the development of the bacillus outside the human body. At Lucknow, 90 soldiers out of 600 died of cholera apparently as a result of placing fresh sand, taken from the bank of a river used as a general bathing place, in a filter from which water was drawn for the use of the command. Food contaminated by cholera discharges also serves as an agent for the spread of the disease. This is rarely directly infected, but is contaminated by manipulation with unclean hands, by contact with infected objects, by dust containing the specific germs, or by the agency of flies which have recently fed on cholera discharges. In India, medical officers now regard the latter as one of the more common agencies by which the spread of cholera is accomplished. In the Burdwan prison, where other means of infection were scarcely possible, it is said by Buchanan that an epidemic was directly traceable to flies which were carried over the prison wall by a high wind blowing from the direction of some native houses, in which the disease had occurred. During the outbreak in the Gaya jail, Macrae found that milk to which flies in the jail were given access invariably became infected with comma bacilli; and he concluded that "flies should be looked on in the light of poisonous agencies of the worst kind during cholera epidemics." The cholera bacilli may be carried in fomites, particularly in baggage, rags, or clothing, soiled with the fæcal discharges of the sick. Under such conditions they retain their vitality for considerable periods, though they are readily destroyed by sunlight and desiccation. As in typhoid fever, the disease germs may be carried into camp or barracks on the shoes of individuals who have visited an infected latrine or locality. Marching troops, when infected, have done much to spread the disease to districts in which it was previously unknown.

The period of incubation of cholera is usually about three days, but this, under rare circumstances, may extend to as much as ten days.

Predisposing Causes.—Cholera prevails endemically in India, from which it extends from time to time. It appears to be a settled fact that where the disease prevails in an endemic form it does not occur in great epidemics. A severe outbreak appears to confer upon the locality attacked a more or less complete immunity; the durability of which, so far as India is concerned, appears to last for a number of years. A high temperature is a predisposing cause of great importance; but while many epidemics have ceased with the advent of cold weather, this is by no means always the case. In the tropics, cholera prevails to the greatest extent at the close of the dry season. A moderate rainfall tends to cause the further development of the disease, but where the rains are heavy and continued, a marked diminution in the occurrence of cholera is observed. There is a general consensus of opinion that the incidence and severity of the disease are greater among negroes than among whites. In the United States, during the epidemic at the end of 1866, the mortality among the white troops was 77 per thousand, while among the colored troops it was 135 per thousand. When the disease prevails endemically, the native population appears to enjoy a considerable but not absolute immunity to it. In the Hedjaz and in the sparsely populated parts of Arabia, it is said by Fauvel that the disease manifests only a feeble tendency to propagate itself among the native population. This immunity, however, is not shared by strangers visiting a locality endemically affected. As a race, the Chinese appear to be notably free from the ravages of cholera, probably chiefly from their general use of sterilized water in tea. In any outbreak of this disease, numbers escape attack through their hereditary or gradually acquired powers of resistance. For epidemics of cholera a stratum of moist soil pervious to air, in which organic material is decomposing, affords the most favorable condition. General sanitary defects, by which the specific fouling of soil and water is possible, are essential to the development of an epidemic.

It has long been observed that the poorer quarters of a community suffer by far the most during a cholera visitation. Epidemics also prevail more severely in low-lying regions than on high ground. Insufficient, poor, or coarse food, improper clothing, and inadequate shelter favor the occurrence of cholera; and physical and mental depression are both markedly predisposing causes. Overcrowding is also a factor of importance. Those affected with catarrh of the intestinal tract and diseases of the