houses of Congress are shown to have commenced, and then to have renounced, in obedience to the demands of selfish ambition and greed, and with an utter disregard of the best interests of the nation, an attempt at reform which the whole people had regarded with unfeigned satisfaction and equal hope.

The proper treatment of the guilty is the subject of the fifth article, in which its author, the Rev. W. G. Eliot, of St. Louis, insists briefly but clearly upon the necessity of absolute justice and impartiality in the treatment of criminals. It is pleasant to notice that he regards the protection of society as secondary to the comfort and reformation of the criminal. He would have the latter reformed, if possible, but at any rate would take care that society was protected against the wrong-doer.

The sixth article is of greater interest to the medical profession than any of the others. It contains two papers upon the health of the pupils of our common schools: one by Dr. D. F. Lincoln, of Boston, upon the nervous system as affected by school life; and the other by Dr. J. J. Putnam, of Boston, upon gymnastics for schools. Both of these papers are excellent in their way. That of Dr. Lincoln is the longer of the two, and is an intelligent discussion of a sanitary question of vital importance. While it points out the fact that pure mental work, like other occupation, tends to develop and strengthen the human system, it asserts with justness and force that such work should not be insisted upon to the exclusion of the methodical and appropriate exercise of other parts of the body. This is an important truth, and one to which unfortunately very little attention is paid. We trust that the Social Science Association will continue their investigations in this direction until some of the glaring defects in our public-school system are exposed and remedied.

The seventh article is a picture, and not a very agreeable one, of the recent financial policy of the United States as contrasted with that of England. In the eighth article the Hon. Emory Washburn endeavors to define the limitations of judicial power, with a special reference to the Supreme Court of the United States. The important matter of life insurance for the poor is explained by Mr. Elizur Wright in the ninth article. We wish that the author could have treated his subject in a manner somewhat more intelligible to the average American mind. The tenth and last article, by Prof. W. G. Hammond, of the University of Iowa, gives an interesting account of legal education and study of jurisprudence in the West and Northwest. It shows to what an extent the science and practice of the law have been modified in that region by novel conditions and rapid material development.

E. H. C.

REPORT FOR SUFFOLK DISTRICT MEDICAL SOCIETY, 1875-76.¹

A. L. MASON, M. D., REPORTER.

AMONG "subjects of local interest connected with the practice of medicine" in Suffolk district is the increasing use of antipyretic agents in the treatment of

¹ Read before the Massachusetts Medical Society, June 13, 1876.

fevers, and, as being the most recent remedy of this class, salicylic acid in connection especially with the treatment of typhoid fever and acute articular rheumatism.

The experience of Brand, Jürgensen, Traube, Ziemssen, Liebermeister, and many others, during the past ten years, in Germany, has shown that many of the severer symptoms of typhoid fever may be modified, and the death-rate materially lowered, by the systematic reduction of the bodily temperature by means of cold baths, quinine, alcohol, digitalis, veratrum viride, and finally by salicylic acid. Statistics of many thousand cases appear to show that the mortality from this disease is not more than one half as great under the antipyretic treatment, strictly carried out, as it was formerly under the expectant plan. As an average result we may quote the statistics of Liebermeister. At the hospital at Basle, out of one thousand seven hundred and eighteen cases treated indifferently in former years, twenty-seven per cent. were fatal. Of one thousand one hundred and twenty-one cases treated by the antipyretic method, eight per cent. died. Other observers give even more favorable results. In continued fevers a prolonged elevation of the temperature to an unusually high point is considered to be the chief cause of danger, from the tendency to paralysis of nerve centres and cardiac debility resulting, with risk of fatal syncope, heart clots, or hæmorrhagic infarction in the lungs.

It has been observed that a morning temperature of 106° , even if occurring but once in the course of typhoid fever, has been followed by death in more than one half the cases observed, whereas but about ten per cent. of the cases in which the temperature remained at 104° , or below, died. The treatment in these cases was expectant.¹ As long remissions are considered of favorable import in the ordinary course of typhoid fever, so these remissions are to be artificially sought, and whatever remedies may be used, they are found to be most effectual if brought to bear at the periods of lowest temperature, thus prolonging the natural remissions, and counteracting the tendency to frequent exacerbations.

A cold bath of from ten to twenty minutes' duration at 68° , given as often as the temperature rises to 102° or $102\frac{1}{2}^{\circ}$, appears to be the most efficient means of abstracting heat, and the gradually cooled bath of Ziemssen is the form which seems most available in this community. Although the enthusiastic predictions of Brand in 1861 have not been fully realized, and there are many cases of typhoid fever in which thorough bathing is impossible or inadmissible, the efficiency of this mode of treatment should not be undervalued. Hæmorrhage from the bowels and feeble action of the heart are contra-indications to the use of cold baths, and there are various other reasons which often make this treatment unavailable with us, so that the simpler plan of reducing the heat-production by means of anti-febrile drugs, with occasional baths, or the use of a cold-water bed, is found to be more generally useful here.

Of such remedies sulphate of quinia is the most trustworthy. Given in doses of from twenty to forty grains, *at once* or within an hour, the temperature may be reduced in most cases several degrees, sometimes to the normal point or below, in the course of twelve hours, slowly rising again. Divided doses

¹ Liebermeister, four hundred cases.

are not to be relied upon to produce the same effect. If the first dose produces little or no fall of temperature, it is to be increased on the following day, but as cinchonism to a disagreeable degree is often present, it is usually desirable to have an interval of forty-eight hours between the doses. If there is vomiting the dose may be repeated, or injected into the rectum, as in some cases of coma, but enough cannot be given subcutaneously. It is usually found that after the first time a diminished dose suffices to produce the desired fall.

With regard to the toxic effects, Liebermeister states that he has given twenty to forty-five grain doses of quinine in one thousand five hundred cases of typhoid fever alone, and in all more than ten thousand single doses, without ever observing any permanent injury attributable to the drug.

Digitalis in ten to twenty grain doses, or a drachm or more of the tincture in divided doses through the day, sometimes acts as a powerful febrifuge when other remedies fail, but it is not entirely safe, and its action is slower. Traube,¹ who investigated this drug most carefully, states that from thirty-six to sixty hours elapse after administrations before the minimum temperature is reached. It is not to be used in cases of cardiac debility, since it is not found to strengthen the heart's action, as it might be supposed to do from the effect on some cases of cardiac disease.

Veratrum viride, or veratria in doses of one twelfth of a grain given every two hours for three or four doses, usually produces a decided fall of temperature, but the nausea, vomiting, and collapse which may follow the use of this drug, as well as that of digitalis, make the most careful watching necessary in both cases. A few fatal instances are reported.

Within the last year salicylic acid has been used to a great extent as an anti-febrile remedy, chiefly in Germany, where the results obtained by a large number of careful observers have been in the main unanimous and satisfactory. For internal use the acid must be pure, perfectly white, and almost odorless. The brownish or yellowish tinge which the imperfectly bleached acid has is due to carbolic acid and other impurities, which render it too irritating for internal use. As a febrifuge the dose is from sixty to seventy-five grains given *at once* suspended in water or syrup, or in wafers. This dose may be repeated on the same day if necessary. On account of the insolubility of the acid, the salicylate of soda, which is quite soluble, is found to be a more convenient form for administering the drug, and equally efficacious.

In many hundred cases of acute febrile diseases which are reported, chiefly typhoid fever, acute rheumatism, pneumonia, phthisis, and erysipelas, a decided fall of temperature has been observed in more than ninety per cent, of the cases after from sixty to seventy-five grains of the acid. The remission usually begins within three or four hours of the dose, the temperature falling gradually from one to several degrees, often to the normal point, rising slowly again for twelve to twenty-four hours, when a small dose of thirty to fifty grains often suffices to continue the remission. The susceptibility varies in different persons and at different ages. For children under a year five to seven grains is considered a suitable dose, though much larger amounts seem to be borne. So in adults several drachms have been given daily without injury.

¹ Traube, *Gesammelte Beiträge zur Pathologie und Physiologie*, ii. 203.

In a moderate case of typhoid fever one dose every day for the first ten days, continued every other day for ten days more, is often sufficient to keep the temperature near the normal point. A dose given at noon will often reduce the evening temperature below the morning's. The action on the bowels is favorable. That is, the tendency to diarrhœa is checked. The pulse often becomes stronger, though the frequency may not be diminished. The effect on the respiration and sensorium is not so beneficial as that resulting from cold baths. In about one half the cases there is profuse perspiration, often beginning within fifteen minutes of the dose, and these cases are observed to fall most in temperature. In about fifteen per cent. of cases vomiting occurs, which sometimes prevents the use of the drug, though this may often be relieved by a few drops of chloroform. The result of injections of salicylic acid into the rectum is not satisfactory.

In forty per cent. of cases, after a dose of from sixty to ninety grains, there is ringing in the ears, occasionally deafness, sometimes dimness of vision, faintness, and headache. In feeble persons collapse may occur, but only one observer¹ mentions a fatal case, which occurred in the fifth week of typhoid fever.

With regard to the action of salicylic acid on the mucous membrane of the stomach and intestines there is a difference of opinion, most autopsies reported showing no lesion or irritation after prolonged use of the drug. Wolffberg (Ziemssen's clinic), however, mentions two autopsies where erosions were found in the mucous membrane of the stomach and duodenum; also in the large intestine of a dog which had had an enema of thirty grains of salicylic acid in about an ounce and a half of water. H. Köhler² (Halle), on the other hand, in some twenty post-mortem examinations of animals which had been experimented on with this drug, found no trace of hyperæmia in the stomach, intestines, or kidneys. He also concludes as the result of his experiments that salicylic acid is the most powerful antipyretic of modern therapeutics. Fürbringer and Schültze³ (Heidelberg) mention three cases of severe dyspnœa, and two cases of acute nephritis, with considerable blood and casts in the urine, which disappeared on disuse of the drug. Cases of inflammation of the mucous membrane of the pharynx after the use of a gargle containing salicylic acid are not rare. Two cases are mentioned where one part to one hundred of glycerine had this effect (Fränkel).

In intermittent fever⁴ salicylic acid appears to have a specific effect in mild cases, but is not to be compared with quinine.

The relative antipyretic effect of salicylic acid and quinine was tested by Riegel (Köln),⁵ who gave to the *same* patients, at about the same period of typhoid fever, often on the same day, at equal elevations of temperature, thirty grains of quinine and sixty grains of salicylic acid alternately, and found that the latter was slightly more effectual in reducing the temperature, and

¹ Goldammer, *Berliner klinische Wochenschrift*, No. 4, 1876.

² *Centralblatt für die medicinischen Wissenschaften*, No. 11, 1876.

³ *Deutsches Archiv*, February 25, 1876.

⁴ Hiller; *Deutsches Archiv*, December 10, 1875.

⁵ *Berliner klinische Wochenschrift*, No. 15, 1876.

could be oftener used. The minimum temperature after quinine came somewhat later, and the remissions lasted rather longer.

With regard to the cost of the two drugs here, Squibb's acid, which is better than the imported, is about one fourth the price of sulphate of quinine at present.

Acute Rheumatism. — In forty cases of acute articular rheumatism treated with salicylic acid during the past spring, in Suffolk district, many of which are reported in the JOURNAL, with doses varying from five to fifteen grains every hour, sometimes once in three or four hours, deservescence, with relief from painful symptoms, occurred in eighty-five per cent. of cases after an average period of two and one half days. Fifteen per cent. were not benefited, or could not take it.

In thirty-three cases reported in different journals elsewhere, there was relief after an average use of the drug for thirty-six hours. Relapses often occur, so the acid should be continued in smaller doses into convalescence. The favorable results in Traube's wards, in Berlin, in fourteen cases of rheumatic fever, led to the assertion that by the use of salicylic acid "the duration of acute symptoms can with certainty be limited to a few days." (Stricker.) This does not appear to be universally true, though in many fresh cases coming early under treatment the disease seems to be cut short. This supposed curative power is probably not due to any antiseptic influence, as the same result is obtained by the use of salicylate of soda, which is not antiseptic, except in a slight degree from the small amount of free acid contained in it.

Salicin. — Salicin, the active principle of the willow, which has formerly been in use as an antiperiodic, has lately been advocated as a valuable remedy in rheumatic fever. It has been used since 1874 by Dr. MacLagan¹ (Dundee), on the supposition that rheumatic fever is of malarious origin, in doses of from ten to thirty grains every two or three hours. Several cases are reported by Dr. MacLagan and others in which the disease is said to have been arrested in from twenty-four to forty-eight hours. Salicin is not very soluble, but may be given suspended in water. The advantages claimed over salicylic acid are that it is not impure nor irritating, and may be given in smaller quantity with the same effect. It is said that there are no disagreeable after-effects. The results from the use of this remedy in the Suffolk district are not yet available.

With regard to the efficacy of febrifuges in general it is to be noticed that as the high temperature in fevers is only one, though in some cases the chief, dangerous element in the diseases, so the abstraction of warmth by baths, and the diminished heat-production which follows the use of antifebrile drugs, can only be regarded as bringing the diseases to a certain extent within control in so far as the most exhausting symptom is concerned. It cannot be said that there is any curative effect or curtailment of the natural limits of the fevers in question, though mild cases of typhoid fever sometimes appear to run a shorter course.

The action of salicylic acid in rheumatic fever may perhaps be excepted, as being specific as well as antipyretic.

The administration of calomel as an eliminative during the first week or

¹ London Lancet, March 4 and 11, 1876.

ten days of typhoid fever is also claimed, with reason, as possibly curative. Traube, Wunderlich, Liebermeister, and others have found a transient fall of temperature following doses of from four to ten grains of calomel, repeated perhaps several times in the course of the first week, and in some cases it appears to shorten the disease. Liebermeister found that in two hundred cases treated early with calomel the death-rate was decidedly lower than usual. Whether it is better than other cathartics is not known.

LITERATURE. — Brand, Heilung des Typhus. Berlin, 1861 and 1868. Jürgensen, Behandlung d. Abdom. Typhus mittelst des kalten Wassers. Leipzig, 1866. Ziemssen and Immermann, Kaltwasser-behandlung d. Typhus Abdom. Leipzig, 1870. Liebermeister, Typhoid Fever, in Ziemssen's Cyclopædia, vol. i. Buss, Deutsches Archiv für klinische Medicin, Band xv. Ewald, Practitioner, March, 1876. Binz, Practitioner, April, 1876. Riess, Stricker, Moeli, Goltdammer, Senator, and others, Berliner klinische Wochenschrift, December to April, 1875-76. Jahn, Allgemeine medicinische Central Zeitung, No. 6, 1876. Senator, Centralblatt für die medicinischen Wissenschaften, No. 14, 1876.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

O. W. DOE, M. D., SECRETARY.

APRIL 17, 1876. *Masturbation in Women.* — DR. CHADWICK read a paper upon the subject. (Reserved for publication.)

Foreign Body in the Rectum. — DR. J. G. BLAKE showed a fish bone an inch and a quarter in length which he had extracted from the anus of a male patient. Dr. Blake mentioned that some years ago he had shown a similar specimen.

Salicylic Acid in Rheumatism. — DR. BLAKE spoke of the good results he had recently obtained by the use of salicylic acid in rheumatism. One case was that of a little girl relieved in twenty-four hours, who suffered no relapse. Another case was that of an old gentleman who took ten grains every hour for twenty hours, with entire relief, and afterwards had only a slight recurrence of the pain.

DR. EDES said he had met with remarkable success recently in the use of this drug in cases of rheumatism at the City Hospital. He had found that relief followed very soon after commencing the use of remedy, and that very few relapses occurred.

DR. C. P. PUTNAM reported a case of rheumatism with cardiac complications, where two drachms of salicylic acid had been taken during the night with entire relief of pain after sixteen hours. The patient had marked tinnitus aurium, but no vomiting. Dr. Putnam inquired if it had been generally noticed that the temperature fell in about four hours after the cessation of the pain.

DR. BLAKE said he had noticed it in most of his cases.

DR. BOLLES mentioned the case of a patient who, after having suffered four weeks from rheumatism, had obtained marked relief in twenty-four hours by the use of this remedy; another patient, suffering from a relapse, wholly recovered in a few days after commencing the use of the acid.