the subject and to bring out its complications and difficulties in a perfectly orderly and systematic fashion. Each report of a case includes a full description of the conditions present and a detailed account of the handling of the situation. If the listening students in the conference knew but little of the subject, the reading of a report would not be unlike the reading of a lecture. But the listening students themselves have had similar experiences, and, instead of sitting with minds dulled in receptivity, they are alert and actively following the account in order to question the reader on his methods, his opinions, his results. And when the students fail to bring out all of the important points in the case, the instructor, a practical man, indicates the significance of the unnoted features. Such is the recognized value of this discussion of the actual conditions of practice that any question of the possibility of successfully applying the case method in medical instruction is here completely answered.

Undoubtedly the most brilliant example thus far of the use of cases in education is seen in the study of law.² The change from the text-book to the case system wrought out in the Harvard Law School has been called America's greatest contribution to educational reform. The newer method has roused an ardor and a keenness of interest among the students such as was never known before. They learn their law not by dreary grubbing at text-books or lecture notes, but by vigorously "threshing out a case" with one another. And for its methods and for its results the Harvard Law School is regarded by competent observers³ as perhaps the foremost centre of legal education in the English-speaking world.

The case method is simply another application of the inductive method to teaching. The inductive method holds its strong position in education to-day because it requires of the student accurate judgment, close reasoning, precise expression and wise employment of his knowledge. It is a method which demands for a long period a student's best endeavors in the full use of all his faculties, but it rewards him with a strength and self-reliance unattainable in any other way. He learns, on the one hand, to avoid smartness and claptrap diagnosis, and on the other, the routine thoughtlessness of the "practical" physician. The method is practical; it will turn out practical men in the best meaning of that term.

Clinical Department.

A CASE OF RELAPSING FEVER.

BY GEORGE O. WARD, M.D.,

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RELAPSING fever has not been epidemic in this country since 1869, when it appeared in force in Philadelphia. The statistics and data of this epidemic, as investigated and reported by Parry, appear in standard medical literature. Sporadic cases are so rare as to be of exceeding interest. For this reason the author has chosen to report this case to the JOURNAL. I wish to say at the outset that this uncommon

diagnosis was not made because of any partiality therefor on the part of myself or my house officer, for we were forced to our conclusion in differential diagnosis by rigid exclusion of other possible causes for the initial rise of temperature, and only convinced by the punctual appearance of the relapse.

The patient, a young Armenian immigrant, eighteen years old, had just arrived, on August 9, 1899, with his mother, direct from Turkey-in-Asia, via England. They had been five weeks on the journey, thirteen days of which were taken in the passage from some English port to New York. Neither he nor his mother could speak a word of English. Hence all data had to be obtained through the interpreter. Both were very sick on board ship, whether from *mal-de-mer* or an initial paroxysm of this fever I have not been able to decide. But both mother and son were taken sick on the same day after arrival in Worcester, with like symptoms. The former remained with friends for four days, when she entered the Memorial Hospital; the latter entered the City Hospital at once.

The crisis of the mother's fever occurred simultaneously with that of her son. She did not have relapse; but, in view of the evident intimate connection of the two cases, I think it fairly probable that the illness of both previous to landing may have been the initial run of the fever.

August 10th. The son, on his entrance into the City Hospital, showed physiognomy characteristic of his race. His previous medical history was negative. His habits were good, and he denied venereal disease. Yesterday he had very severe headache and slight diarrhea. Later he had severe chill, high fever, with much muscular pain. Later still, in the evening, he had profuse epistaxis, to control which both nostrils had to be plugged. At his entrance, his temperature was 104°, his pulse 100, his respiration 22. His expression was dull and apathetic. His skin was moist and very dark, suggesting jaundice. No eruption of any kind was to be seen on his body. His pupils were normal. His nostrils were plugged, and epistaxis followed any attempt to remove plugs. His tongue was dry, with brown coat. Sordes were on teeth, lips and gums. Heart and lungs were negative. There was no tenderness of abdomen, but both liver and spleen were easily palpable. Reflexes were sluggish. There was no edema. The urine was negative, the diazo reaction being absent. The patient was put on diet of liquids and ordered to have baths when temperature is above 102.5°. Ice cap was applied to head. Strychnia, one-sixtieth grain every four hours. The temperature was ordered to be taken and charted every four hours, as is our routine.

August 11th. The Widal reaction is negative, and the diazo also. Plasmodium malarie was looked for but was not found. Leucocytosis, 6,200. Plugs were removed from nostrils. No epistaxis followed. Temperature was still high, and patient was very apathetic but not delirious.

August 12th. Temperature was still above 105°, and baths had little effect; pulse was not of good character. Spiritus frumenti, two drachms ordered every four hours. Slight epistaxis. Patient looked bad.

August 13th. Between eleven last night and three this morning, patient's temperature fell from 104.8° to 97.2° (nearly 8° in less than four hours), and his

² See Keener: American Law Review, xxviii, for an excellent account of the workings of the method in law. The writer is indebted to this article for suggestions.

³ Nation, June 8, 1899.

pulse simultaneously fell from 110 to 68. There were no signs of collapse, and pulse was of good character. Sweating was *very* profuse. Examination of chest was negative, as also was a second serum examination. Leucocytosis, 500. Patient brightened up during the

Chart of this case.

day and at night was feeling fairly comfortable. Constipation.

August 16th. Temperature soon rose to between 99° and 100° and has continued so. Pulse has continued at about 70. Stimulants were omitted. Patient seems comfortable and takes interest in surroundings. Shows signs of hunger. Denies subjective symptoms.

August 21st. Patient has been feeling pretty comfortable since date of last note. Has been on diet of semi-solids, and has been allowed to sit up a little in bed. His skin appears to have cleared as though he had been previously jaundiced. This afternoon his temperature shot up again from 97.8° to 105.5° (rising nearly 8° in less than eight hours), but without marked subjective symptoms. Leucocytosis, 12,000.

August 23d. Temperature has remained persistently high since last note, until 11 A. M. to-day, when it fell by crisis from 105.5° to 96° (falling 9.5° in less than eight hours). He perspired very profusely and showed more evidence of collapse than in previous crises, so that some stimulant was given. He complained of no symptoms, but during all this relapse he has been very apathetic. The blood has, during this relapse, been examined daily for the spirillum Obermeier and plasmodium malarie but without success.

August 24th. Between three and eleven this forenoon temperature rose again from 97° to 105.6°, and,

perature fell to 95.2°, but this forenoon it is 97°. The patient looks brighter and has no symptoms.

September 1st. For the six days after the last note, patient carried subnormal temperature, averaging about 97°, as recorded on four-hour charts. Yesterday and to-day the temperature has ranged in vicinity of 101°, without symptoms. Patient has improved much in general condition. Complains much of hunger, and is to-day allowed to get up and eat house diet. Leucocyte count normal.

September 9th. Convalescence was steady from last date and patient was this day discharged well.

The above notes present a clinical picture fairly typical of relapsing fever. The temperature chart, as depicted in the authorities, is so striking and so utterly unlike that of any other disease, that I wish to exhibit one from Murchison in comparison with that of the case above described. The "abrupt crisis, characterized by prodigious and sudden fall of temperature unequalled in any other condition of disease" (Murchison), is still more graphically shown by our four-hour chart, from which record I have verbally quoted in the notes. But if the chart of the case just reviewed be properly superimposed on the chart of Murchison they will be found to agree so strikingly that one can hardly suggest that they can arise from cases dissimilar in nature.

The failure to detect the spirillum of Obermeier is not remarkable, as it was not looked for until the relapse, and it may not have been present. If the spirillum had been found, I think it would have been only regarded as evidence confirmatory of a diagnosis otherwise well established by clinical phenomena and a typical temperature record.

I wish to hereby acknowledge my indebtedness to my house physician, Dr. George A. Dix, for his faithful study of this case and for his careful clinical notes taken thereon.

ON THE TREATMENT OF PAIN IN TABES DORSALIS; REPORT OF A CASE.

BY ALFRED H. LINDSTRÖM, M.D., BOSTON.

THE temporary amelioration and suppression of pain occurring during the crises of tabes dorsalis by the use of appropriate chemicals and drugs is, no doubt, readily accomplished. But the repeated and frequent use of analgesic chemicals, especially coal-tar derivatives, is unquestionably deleterious to the general health of the patient, and since the successful management of a tabetic patient demands the most careful attention to his general health and his constitutional resistive powers, it is obvious that such medication should be avoided as much as possible. Methods of diminishing and alleviating the intensely distressing pains of tabes, not involving injury to the general health, would therefore seem to merit attention. A number of mechanical procedures have been suggested, and used with more or less success, such as surgical and postural stretching of the sciatic nerves, suspension, various forms of counterirritation, including the use of static sparks, other forms of electricity, direct pressure on the sciatic nerve, the use of friction with ice, ice in other forms, hot baths, cold douches and sprays to the spine, etc. Because of the marked success resulting from postural or mechanical stretching in the following case, its publication would seem justifiable.

Chart of Murchison.

after continuing high for four hours, fell again to 95.6° (a drop of 9° in less than eight hours). This crisis, like the others, was accompanied by profuse sweating. Patient is very apathetic, with fair pulse at 60.

August 25th. During last night the patient's tem-