many of the girls is the chief cause of the curvature of the spine, and that it calls very strongly for more attention to physical education, and especially for more provision for gymnastics than is found at present in elementary schools for girls. Girls, 100, of the lower classes do not as a rule play the same games as the boys, or as are played now by girls of the higher classes of society.

 Eyes.—There was no case of colour blindness or even of "color" among the girls.

 Acuteness of Vision.—Out of the total number, 202, nearly 13 per cent. had errors of refractive requiring the use of glasses. Only 39 per cent. of these were already provided with any glasses.

 Hearing.—Out of 1,400 cases 117, 8.3 per cent., had defective hearing to some extent. In so of these the defect was slight, a watch normally heard at 18 in., being audible at distance of from five to six, in many cases at less than 1 in. In nearly all these, however, one ear only was affected. In several there was a history of otorrhoea. In no case was the deafness noticeable by ordinary conversation. Contrary to my expectation I found but few of the cases of defective hearing associated with enlarged tonsils. In the same way, they were not infrequent in the absence of albuminuria.

 Throat and Nose.—Enlarged tonsils, adenoids, or both, were found in 425 cases, nearly 10 per cent. Many of the cases were slight and no treatment was advised. Fifteen cases of adenoids were recommended to be removed. The whole of the association with deafness was, as remarked above, very small, being limited to 13 cases. The percentage of enlarged tonsils and adenoids was very much less in the girls than the boys, namely, 5.3 per cent., instead of 10.8 per cent. It may be suggested that cases were allowed to pass undetected in the former, but I do not think that this was the cause. There was an individual striking absence among the schoolgirl of the facial signs of adenoids so common in our elementary schools and especially so in the classes for mental defectives—but there too I think more frequent on the whole in boys than girls.

 Urine.—Among the 1,380 cases examined 151, or nearly 10 per cent., had albuminuria. This percentage is almost exactly the same as that found among the boys. Only those cases are included in which the whole of the albuminuria was associated with deafness was, as remarked above, very small, being limited to 13 cases. The amount of albumen varied from a slight cloud to, in a few cases, as much as one-fifth solid albumin. In as many cases as possible the urine was examined a second time at a few days' interval: 82 cases were thus re-examined, in 67 albumen was present on both occasions. I have endeavoured as far as possible to keep the albums in 15 cases under continued observation. This has not been always easy, as they are under no obligation to attend any subsequent examination, and opportunities for further investigation can only be obtained as a fact in the case. However, success was in making over 300 examinations of the urine in old cases.

 Seventy-three Cases were Examined Three Times.—In 180 (83 per cent.) of the examinations albumen was found. In 9 cases albumen was present at every examination.

 Forty-one Cases were Examined Four Times.—Albumen was found in 93 of the examinations (76 per cent). In 10 cases there was albumen at every examination.

 Fourteen Cases were Examined Five Times.—In 75 of the examinations (51 per cent.) albumen was found. In 6 cases albumen was present on each occasion.

 The longest time any case has been under observation is five years; 23 cases have been under observation for periods of from three to five years. Of these 23, 10 had albuminuria at every examination, 12 had no albuminuria the last time they were examined (3 of these also had none the time but one), 1 case was found to have no albuminuria at an intermediate examination, but albumen was present again when last seen. The amount of albumen was found to vary a great deal in the course of the subject examined in the schools, but was not confined to any particular age. On the whole, the tendency certainly was for the amount to diminish at each subsequent examination, but this was not always the case. Certain of the albumen was found to have been present from the very beginning.

 Causation of the Albuminuria and Health of the Girls.—The majority of these girls were of good general appearance, some were the same among those who were noted as being robust and healthy, and some among those who were classed as delicate. Albuminuria is said to be common in children of a nervous temperament, subject to night terrors, somnambulism, or other symptoms of an unstable nervous system. Certainly by far the larger number of the girls examined were by no means of this type.

 There was a history of scarlet fever or diphtheria in a certain number of cases, but not in a greater proportion than among the whole number of girls examined. In no case was any medical complaint of kidney disease suggested by the girl or her parents, and the occurrence of any kidney trouble was suspected. I did not find among them any cases with further symptoms of kidney disease or any urinary disturbances. Enlarged tonsils were present in somewhat greater proportion than among the girls in general, but not to any great extent.

 In a few of the cases where the amount of albumin was excessive and microscopic examination of the urine was made. No casts were found. I have not yet found evidence of deterioration of the general health among the girls who have been kept under observation. One girl has had scarlet fever and was first classed as healthy in 1900, and informs me she was then told that it was complicated by inflammation of the kidneys. As she appears to have been but slightly ill, the diagnosis was probably due to the pre-existing albuminuria.

 The conclusions I have drawn from the very imperfect observations I have been able to make are as follows: 1. In the majority of the cases in which albuminuria was found was the condition a temporary one, but was more or less permanent, at any rate for a few years. 2. I find no evidence of consequent deterioration of health so far as I have been able to watch the cases. There are unfortunately the time during which it has been possible to keep the girls under observation is too short to throw much light on the subject of the ultimate prognosis in these cases of albuminuria. That some will result in nephritis is probable, but the large number of cases in which the albumin has disappeared after persisting for some months or years certainly appears to me to afford some evidence against the theory that albuminuria in the apparently healthy is to be considered in all, or nearly all cases, an early stage of interstitial nephritis. It is, of course, impossible to say that some of the albumen may not have been due to leucorrhoea. The urine in all the cases reported was, however, quite clear, and there was no sign of infection of the urinary passages, in which there was merely a faint trace of albumen present were on this account not included. As regards the condition of the girls generally as brought out in these examinations, I think this may be considered satisfactory. The girls as a rule were healthy. Although a considerable proportion might have been better developed in many ways, and a variety of defects were discovered, these were generally not serious, and the falling below the standard of health was not great. The candidates were the picked scholars of the elementary schools: they had all worked hard, and many had had to pass a final examination before admission. The medical examination was interesting in regard to the question as to whether such application to work had injured the health of the schoolgirl. The conclusions arrived at were the same as those made concerning work in Board schools. In the case of those who came before me—the girls who succeeded—I think the answer was in the negative.

 NOTE ON THE OCCURRENCE OF LEISHMAN-DONOVAN BODIES IN "CACHEXIAL FEVERS," INCLUDING KALA-AZAR.

 By LEONARD ROGERS, M.D., M.R.C.P., I.M.S.,
 Acting Professor of Pathology, Medical College, Calcutta.

 The work of Donovan in showing the above parasite-like bodies to be commonly present in chronic fevers in Madras, following very closely on the first description of them by Leishman, has raised the very important question as to whether some of the cases hitherto known as "malarial cases," including the classical kala-azar, might not be caused by the new parasite. On my recent return to India I was fortunate enough to be placed on special duty to inquire into the prevalence of fevers and the nature of the disease kala-azar; to see the country at an early stage, and I showed some years ago that the Assam epidemic fever took its origin in the early Seventies, owing to five out of six successive years of deficient rainfall. I have, therefore, been able to examine for the new parasite by spleen puncture, with some
results which appear worthy of record. As my object was to find out how to differentiate the cases with the new bodies from chronic malarial fevers, all such cases were sent out with an examination of the spleen below the ribs and recent fever were submitted to the little operation, which was rendered painless by spraying the skin first with ethyl chloride. Although, in all, 30 cases were examined in this way in an attempt to make a positive diagnosis of malarial cachexia, and considering indistinguishable from kala-azar in Assam, which differs from that disease, when the family histories are gone into, in that more than 1 death in a family within a year or two is very exceptional in the sporadic form seen in Lower Bengal; while it is the rule in the epidemic form of Assam, where among the patients in a large dispensary three-quarters had lost half, or more than half, of their household from the disease.4 Further, in the worst part of the Dinajpur districts I could obtain no evidence of villages being decimated by the disease, and of the people deserting them, as always occurred in the affected tracts in Assam. Yet, given a single case of the two forms, there is no means of distinguishing them, except, perhaps, by the greater rapidity of the occurrence of the markedly cachectical stage in the acute cases recorded at the dispensary.

With regard to the present series of cases, malignant tertian malarial parasites were found in some, Leishman-Donovan’s bodies have been found in the remainder no parasites could be detected, although, on the most a film prepared from the peripheral blood was examined, as well as those of the spleen blood, Romanowsky and Leishman’s stains being used. It will be most convenient to tabulate, for purposes of comparison, the two series of cases in which parasites were found. The negative cases, which constituted just one half (15 out of 30) were precisely similar in nature to those given in the tables. A study of the above table shows that there is no point of marked difference between the two series, for in both the majority of the cases occurred in children and were of a chronic type, the malarial ones happening to show this in the more marked degree on the average, while the darkening of the skin since the onset of the fever—a point on which the relatives sometimes volunteered information before they were asked—the marked enlargement of the spleen, and to a less degree, of the liver, the anaemia and wasting are all common to both series. The area in which these cases were examined is but a little north of the Darjeeling terai, and the very marked, the spleen rate in the villages from which most of these cases came having been 99 and 100 per cent., while it was in this very tract of country that the Malarial Commission found a very definite relationship between spleen rate and malarial endemic index, so that there can be no doubt as to the prevalence of malaria in this part. It is also remarkable that even with spleen puncture no parasites of any kind were found in half the cases, although in all the 15 negative cases fever was still occurring regularly, while they had not been recently dosed with quinine. Most of the cases in both series showed an increase of the large mononuclear white corpuscles, and also a large proportion of lymphocytes and a reduced one of polynuclears, just as I have previously shown occurs in chronic malarial fevers well in cases of malarial cachexia and kala-azar, so that if the new bodies are not a form of malarial organism then it is evident that a large mononuclear increase is not diagnostic of malaria, but rather of an disappearance of the presence of a protozoal, as opposed to a bacterial, invasion of the system. It is disappointing to find that even spleen puncture fails to differentiate a few cases, but better results may be obtained by repeating the procedure, as a second puncture was successful in one case.

It is, of course, conceivable that all these chronic cases may be due to the new parasite-like bodies, and the presence of malarial parasites in many of them also may be a coincidence. If the new parasites do not form melanotic pigment, then it is clear that the great majority of these chronic cachexial fevers are complications by malaria, for I have shown on more than one occasion that both in kala-azar and also in malarial cachexia, as seen round Calcutta, recent black pigment is nearly always met with in the liver, spleen, etc., after death; while during the occasional high rises of temperature which occur during the course of the low fever of the cachexial stage of the disease malarial parasites can frequently be found. On the other hand, against the view that the new bodies are a late secondary infection frequently occurring in the subjects of chronic malarial fever are the facts that these new parasites were found after only one month’s fever in two out of three cases recorded from Dinajpur. It will be shown presently that they are also to be met with in fairly early stages of kala-azar; so that, on the whole, it appears to be more likely that they are a parasitic, or a newly evolved malarial parasites, and producing a very similar train of symptoms, but with a greater tendency to bring about a cachectial state very rapidly, and a greater resistance to the action of quinine in small doses. In view of the above results, it is clear that the differentiation of the new fever from chronic malaria by purely clinical means, apart from spleen puncture, will be an extremely difficult matter, and will require a far larger series of cases than the present one. Yet if the new bodies prove to be the cause of all the chronic fevers in which they are met with a great advance will have been made, and a new field of research will have been opened up.

Leishman-Donovan Bodies in Kala-azar.

In December last a letter appeared in the Indian Medical Gazette from Major Donovan pointing out that the cases in which he had found the new parasites resembled kala-azar closely in type, and suggesting that the latter might also be due to them. Rose has also made a similar suggestion. Thanks to the kindness of my old friend Dr. Dodds Price, of the Nowgong district of Assam (whose experience of kala-azar is absolutely unrivalled at the present time), in sending me slides made from blood obtained during life by spleen puncture in seven cases of undoubted kala-azar, the duration of which varied from five months to two years and a half, I have been able to search for the new bodies. The results may be very briefly summarized by saying that numerous Leishman-Donovan’s bodies were readily found in three of the cases, while in two more they were more
THE LEISHMAN-DONOVAN BODY.

SIR PATRICK MANSON, and GEORGE C. LOW, K.C.M.G., F.R.S.

So far the peculiar parasites associated with splenomegaly in India and other places have been found in the spleen, liver, and bone marrow, in the former two by puncture during life, and in all three post mortem. Lately having made sections of some of the other organs of a case which died of kala-azar in the Hospital for Tropical Diseases at the London School of Tropical Medicine, and which presented many Leishman-Donovan bodies in the spleen, liver, and bone marrow, we have found the same parasites in the lymphatic glands of the neck.

Sections of the pancreas, kidney, and large and small intestines have so far shown nothing.

We record this fact now as it may be of importance in the further elucidation of the disease. We hope to publish shortly a full account of the case with photographs, and details of the arrangement of the parasites in the different organs.