

week. These cells are quite pathological, and I have offered evidence<sup>1</sup> that they are really immature monocytes (pre-monocytes) accompanying monocytosis, just as myelocytes accompany leucocytosis. They may appear in the monocytosis of malaria, and should be looked for in glandular fever in adults, in whom they might assist diagnosis. In both cases in which I found them the glands were unusually swollen.

Dr. Cantor<sup>2</sup> suggested that glandular fever has three stages—of invasion, of eruption, and of glandular enlargement; that pyrexia is common to all three; but that in some cases the second stage is exaggerated and the third minimized; in others the second is omitted and the third prolonged. Apparently children belong to the latter group, for only the eldest of my patients, a girl of 13, had a rash. On the fifth day a brisk plasmacytosis had appeared, and in the evening gave the count: eosinophils 1, neutrophils 21, lymphocytes 53, monocytes 10, plasma cells 14. Next day the rash appeared on the body—about ten bright erythematous patches with a few urticarial wheals—disappearing in twenty-four hours. On the eighth day the plasma cells fell to 2 per cent., which is usual from the fourth day onwards. This plasmacytosis included both plasma cells and Türck forms, and the latter may be regarded as plasmoid monocytes, which in small numbers accompany every monocytosis—for example, in typhoid and in malaria. The excess is unusual, but occurs sometimes in German measles, in which I found 13.5 per cent. in a woman on the fourth day from beginning of rash. I have also reported<sup>3</sup> 19 per cent. after an intense rash in scarlet fever. In all these cases excess was associated with considerable irritation of lymphatic glands and of skin.—I am, etc.,

London, W.13, Oct. 11th.

ROBERT CRAIK, M.D.

#### "WHAT IS LIFE?"

SIR,—I venture, though but a humble student of biology and physiology, to ask Professor John Haldane a question arising out of his recent volume on the *Philosophic Basis of Biology*. Where are to be found the mechanistic-minded biologists and physiologists against whose supposed doctrines his argument is directed?

I have some limited personal and reading acquaintance with biologists and physiologists to-day, but know none who hold the particular heresies which Professor Haldane is hunting. The same perplexity was present in my mind when reading his earlier work, *The Sciences and Philosophy*, in which a great part of the argument was directed against "Newtonian principles" which had been superseded at the time the book was published.

Professor Haldane, in his letter in the *British Medical Journal* of October 24th, writes: "If we apply to a living organism the conception of matter we have thereby made it impossible to interpret scientifically the phenomena we are dealing with"; presumably some particular conception of matter is here referred to—matter, for example, as independent and self-determining. But in what quarters are such conceptions of matter now held, and does Professor Haldane consider it vicious to embody among our conceptions of the living organism the conceptions of matter that are current among physicists—Planck, for example—to-day?

The majority of biologists and physiologists appear to devote themselves to the discovery of the behaviour of the living organism in all its aspects, believing, apparently, that the picture of life can only so be painted. Philosophy, on the other hand, appears to consider that it has some

special means and powers of discovery above and beyond those of the "working class." What *are* these special powers, and what *is* this philosophy which claims them?—I am, etc.,

Liverpool, Oct. 26th.

K. W. MONSARRAT.

#### VACCINATION AND ECONOMY

SIR,—With all respect I cannot quite agree with Dr. Haldin-Davis as to the small-pox lately prevalent in the country being of the mildest possible variety. I have had 766 cases under my care since March, 1928, at the Orsett Joint Hospital, and although the great majority were trivial, we had at least forty severe cases, including several confluent ones, which, however, fortunately recovered. In 1920 we had a small epidemic of thirty-five cases, of which nine died. The cost of maintaining these cases in hospital must have exceeded the cost of vaccinating many thousands of people, and would have paid the salaries of a large number of public vaccinators. I was on the small-pox ships in the 1894 epidemic, when we had 800 deaths, and I believe a virulent case among an unvaccinated population might easily start another fatal epidemic such as occurred in this town in 1902.—I am, etc.,

Grays, Oct. 25th.

S. G. FLOYD, M.D.

#### TREATMENT OF STREPTOCOCCAL INFECTIONS

SIR,—In common with most other medical men, I have in the past felt a certain helplessness in dealing with acute streptococcal infections. Streptococcal antisera of the polyvalent variety have been, according to the experience of most practitioners, of little or no value. We have in the past regarded the action of an antiserum as being of value for one particular strain of organism only, and in the case of some serums, such as anti-diphtheritic, this is undoubtedly the correct view.

Recently, however, many men have been using anti-scarlatinal streptococcal serum for a variety of streptococcal lesions. In my own limited experience the results have been so encouraging that I feel justified in bringing this subject to the notice of your readers, in the hope that this serum may be given a more extensive trial. The conditions for which it has been used have in every case shown very definite improvement within forty-eight hours. In the space of a communication such as this I can do little more than enumerate the cases under my observation for which this serum has been used.

- Streptococcal puerperal septicaemia, 3 cases.
- Streptococcal broncho-pneumonia of influenzal type, 3 cases.
- Acute post-influenzal otitis media with extensive cervical adenitis, 3 cases.
- Streptococcal skin infections of the erysipelas type, 2 cases.
- Acute streptococcal cellulitis with adenitis, 2 cases.

In one of the puerperal septicaemia cases in which the organism cultivated from the blood was a non-haemolytic streptococcus, the results were most dramatic. On admission to hospital the patient was delirious, and having rigors on an average of one every four hours. About forty hours after her first dose of serum her temperature dropped to a moderate figure and the rigors ceased. She became mentally rational, wanted her food, and had in every way improved. She continued to receive doses of serum at daily intervals, requiring in all ten doses of 300,000 units.

In one of the influenzal type pneumonia cases, which was in its third week of the disease when the serum was first given, the prognosis seemed hopeless. The patient's

<sup>1</sup> *British Medical Journal*, 1930, ii, 213.

<sup>2</sup> *Ibid.*, 1930, i, 1197.

<sup>3</sup> *Ibid.*, 1923, ii, 1096.