issues at stake are so tremendous that we must face facts and state them plainly.

III. WHY IS THE DEMAND MADE OF US?

The ostensible reason is to improve the medical attendance on the poor. On this subject I venture to assert that a vast amount of malevolent nonsense has been written and spoken. As a medical consultant, with a considerable experience extending for more than twenty years, I am in a position to appraise the value of the much abused club doctor. When I recall the self-forgetful, tireless good work done by him under conditions so altogether disgraceful, not to him, but to the community at large, I am filled with admiration. Defects there have been, grave defects, but how, under the circumstances, were they to be avoided? The grant of State aid to enable the poorer classes to properly remunerate their medical men so as to enable them to devote the time they desire to their cases is altogether right. But if this had been the real reason for the proposals now put forward, there would have been no necessity for keeping the preparation of the National Insurance Bill a close secret from the medical profession—a short-sighted policy which, by excluding expert advice, ensured the measure being unworkable; for the refusal to hand to the profession advance copies of the bill when its completion was announced; for the attempt to rush it through Parliament with no adequate discussion; and now to force it upon the medical profession, by methods which I will not characterize, in spite of protests from every authoritative quarter.

The National Insurance Act, when dispassionately examined in the history of its construction, the defective details of its design, and the startling mendacity of its advocates, is clearly aimed not chiefly at the improvement of the medical treatment of the poor, which it will impair and not improve, but at the advancement of a political party and the establishment of a personal predominance.

IV. WHAT WILL BE THE CONSEQUENCES IF WE ACQUIESCE IN THESE ARRANGEMENTS?

I shall consider very briefly and carefully not what the results may be, but what they must be. Medical men are, by the Act, required to place themselves under the control of committees armed with punitive powers, chiefly composed (by a majority of three-fifths of their number) of representatives of men of less culture and training than the medical man—by men, in fact, drawn from the very group which has already proved to the hilt its utter unfitness for such duties. They will be charged with work which will occupy them too fully to permit of reasonable recreation, and leaving no time for the professional reading which is necessary to prevent their falling behind the current standard of knowledge, and will be liable to punishment in their professional capacity by a body wholly incompetent to pronounce an opinion on such matters. Under such circumstances we have to ask ourselves if an adequate supply of efficient medical men can be maintained for the national needs?

The experience of the Army Medical Service affords us a test of what is likely to happen. Twenty years ago the Army Medical Service was reasonably well paid, only moderately badly treated, was at least under the control of well-educated, cultured men, and afforded interesting opportunities of travel and a share in the distinctions of military life. Yet there was a serious shortage of candidates for it and efficiency fell off. Why? Because its conditions were officially and socially unpleasant, and the pursuit of knowledge was hindered.

But the conditions of the Army Medical Service twenty years ago were paradise to what the conditions of the "panel" will be now. These conditions will be so degrading to self-respect and pride of work that energy, professional enthusiasm, and knowledge must fall off, and the question faces us, Will educated and self-respecting men enter such a service or put their sons into it? It is unimaginable that a sufficient supply can be maintained. Already the supply has fallen to an alarming degree. In the two-year period, 1911 and 1912—the period affected by the introduction of the National Insurance Bill—the entry of medical students in the United Kingdom has been about 450 fewer than in the two-year period 1909-10. And since, in the inevitable

degradation of medicine, all its branches will share alike—for any one who enters medicine must run the risk of the "panel"; no boy beginning his hospital work, can be certain of better fortune—general practitioners, consultants, surgeons, specialists, public servants either in army, navy, or public health, medical teachers and medical investigators all must clearly degrade in efficiency together. How is it possible to think otherwise? And as medical teaching begins to suffer, the profession must obviously take a further long step down.

Whatever, therefore, may be our views with regard to the control of medicine by Government under the auspices of the highest intelligences in the community, there cannot be a moment's hesitation in condemning as highly dangerous to the national welfare the present proposals. We may, I submit, only too confidently draw the following conclusions:

CONCLUSIONS.

1. There is sound historical and contemporary evidence that the progress of medicine is intimately related with liberty of thought and action.
2. That wherever lay control exceeds what is necessary, the progress and practice of medicine are impaired.
3. That the proposals now made in the National Insurance Act are so pernicious that it is the duty of the medical profession to resist them by every legitimate means in its power.

SALVARSAN IN PERNICIOUS ANAEMIA.

BY

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EVERY ONE reading the notes of the case reported in your issue of December 14th last by Dr. Hobhouse will congratulate him on the happy result of his treatment; the case taken with those reported by Dr. Byrom Bramwell might lead one to suppose that in salvarsan we had possibly a specific in pernicious anaemia; that such, however, is not the case is unfortunately borne out by the total failure of this drug in the following instance, which is still under my care in the Sussex County Hospital. Why in one case the drug should bring about an apparent, if temporary, cure, and in another totally fail to produce any improvement remains for the future to elucidate.

C. H., aged 61, stated that he had not been fit to work for two years; that he had had indigestion and jaundice, had lost weight considerably, and had vomiting and diarrhoea, headache and drowsiness. His skin was bronzed on face and hands, but there was no pigmentation of mucous surfaces, nor around the nipples. The heart and lungs were normal.

He was at first thought to be the subject of Addison's disease, but a blood examination negatived this diagnosis, and showed the condition to be pernicious anaemia. The temperature was never as high as 100° F., but invariably at night ranged between 99° and 100°; on the night following the first injection of salvarsan it was somewhat higher, but ever afterwards distinctly lower, never reaching above 99°. He was admitted on October 3rd, 1912, and the following are the blood counts:

Date.	Red Cells.	White Cells.	Haemoglobin.	Colour Index.
October 6th	1,184,000	3,050	40	1.6
October 11th	1,108,000	3,250	45	2
October 22nd	1,248,000	4,750	50	2.08
October 28th	1,332,000	4,350	35	1.4
November 5th	1,016,000	2,850	35	—
November 15th	1,088,000	2,800	40	1.9
November 27th	1,344,000	—	35	1.3
December 9th	1,152,000	4,800	35	1.7
December 18th	1,272,000	3,150	40	1.6

The first dose of 0.3 gram of salvarsan was given intramuscularly on October 13th, after which there was a

definite increase in the number of red cells for a fortnight, when a second dose of the drug was given (October 29th). Examination of the blood a week later revealed a diminution in the red cells; the treatment was therefore stopped. The patient has since November 30th been treated with an autogenous vaccine of pure culture of streptococci obtained from the gums, and the latest report shows some improvement in the number of red cells, and the colour index, and fewer normoblasts and megaloblasts. The following notes were made by the pathologist:

October 6th. One normoblast on film; cells irregular, but stain well.

October 11th. Megaloblasts and normoblasts present; cells stain badly.

October 22nd. Several megaloblasts; poikilocytosis and anisocytosis marked.

October 28th. One megaloblast.

November 5th. Megaloblasts and normoblasts present; staining irregular.

November 27th. Nucleated cells; megaloblasts and normoblasts.

December 18th. One normoblast and one megaloblast; marked poikilocytosis.

My thanks are due to Mr. Cheves, the house physician, for the notes of the case, and to Dr. Galt and Mr. Healey, pathologists, for their careful reports on the blood.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

EXTERNAL MYIASIS IN A MONKEY.

On June 25th, 1912, two small groups of dipterous larvae were noticed on a specimen of *Cercopithecus callitrichus*. The monkey was suffering from acute tuberculosis, and died the day following the observance and removal of the parasites. One batch of these larvae were taken from the nose and region of the face surrounding the mouth, the other from the right side of the body near the groin. In both cases the larvae were in various stages of development, some of them having apparently only recently hatched. Altogether twenty-one of these parasites were removed from the host, and were subsequently placed in petri dishes containing raw flesh and sand.

It became evident that at least two species of diptera were incultured, sixteen specimens being of the typical *Muscid* type and the remainder larvae of *Fannia canicularis*. Two examples of the latter were allowed to complete their development, the adult emerging on July 27th and August 5th. The majority of the remaining larvae pupated by June 29th, but four specimens remained in the larval stage until July 5th, 6th, and 7th respectively. The four specimens referred to were separated, and subsequently on July 16th, 18th, and 19th three specimens of the blow-fly, *Calliphora erythrocephala*, emerged, the remaining example having shrivelled up. From the remaining puparia seven specimens of *Muscina stabulans*¹ were obtained, the period spent in this stage varying from eleven to nineteen days.

The above records are of some interest, as neither *Fannia canicularis* nor *Muscina stabulans* can be classed among the "flesh flies," although both, but more especially the former, have been known to occur in the alimentary tract of human beings. The natural breeding places of the so-called lesser house-fly (*Fannia*) are human excrement and decaying vegetable matter, but records are in existence of its having been reared from the larvae of a lepidopterous insect (*Epischia canella*) and of its occurrence in the nest of the common bumble-bee (*Bombus*). It is possible, therefore, that the larvae in question may have been derived from an external source, as, for example, the food of the monkey at the bottom of the cage; but, however this may be, they were found by us on the animal itself. In this connexion also it is worth noticing that the monkey was taken a considerable distance from the cage before the larvae were removed. The larvae of *Muscina stabulans* also feed on decaying vegetable substances and dung; they sometimes, however, attack growing plants, but in these cases have probably been introduced with the manure. The fly has also been reared from human

¹ The identification of this species was kindly confirmed by Mr. E. E. Austen.

excrement and from the pupae of certain insects, notably those of the gipsy moth, although there appears to be some doubt whether the pupae attacked were healthy or not.

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(From the Runcorn Research Laboratory.)

THE CAUSATION OF THE CRESCENDO CHARACTER OF THE PRESYSTOLIC MURMUR IN MITRAL STENOSIS.

I HAVE frequently in former communications called attention to the physical fact that the auricle, as it contracts, can exert a rapidly increasing pressure on its contents. The ventricle could do the same were it not that as soon as the pressure on its contained blood rises above that in the aorta it escapes into that vessel, which acts as a safety valve to the ventricle, preventing its pressure ever rising further.

When, however, in mitral stenosis the escape of blood from the auricle into the ventricle is hindered, the auricle can probably increase the pressure on its contents to an extent far greater than is commonly supposed. It can, apparently, force it with ever-increasing pressure into the ventricle as its contraction progresses, even without the necessity of hypertrophy of the auricular walls to aid it.

This follows as a simple consequence of certain physical principles, which must apply to a greater or lesser extent to the contractions of such hollow viscerae as the heart chambers, uterus, bladder, etc.

Let AB and CD be two thin, hollow contracting spheres (elastic or muscular), the larger CD being double the diameter of the smaller AB. If they be equally thick, it can be shown that CD has four times the quantity of material in its walls than AB has; and if they are contracting on their contents with equal force per unit of material, it can also be shown that the pressure within the smaller sphere will be double that in the larger. The smaller sphere has, therefore, an eightfold mechanical advantage over the larger, in that with one-quarter the contractile material it can produce double the pressure on its contents.

If the smaller sphere were one-third the diameter of the larger it would, by the same reasoning, produce three times the pressure on its contents with one-ninth of the contractile material in its walls; that is, it would have a mechanical advantage over the larger of 27 to 1.

Supposing, then, that the larger sphere were to contract to half its diameter, it could, if its force of contraction remained constant, increase the pressure on its residual contents eightfold; and if it contracted to one-third its diameter it could, theoretically, raise the pressure on its residual contents twenty-sevenfold.

In fact, the pressure which a thin, spherical, contractile wall can exert on its contents varies inversely as the cube of its diameter.

I do not mean these figures to be taken as mathematically precise as applied to the auricle, uterus, bladder, or other hollow viscus. They, however, indicate the immense mechanical advantage which these organs must have as their contraction on their contents progresses, and partial expulsion of these contents takes place; for the same physical principles apply necessarily to them.

I have little doubt that it is largely due to this fact that the presystolic murmur is crescendo in character. As the contents of the auricle are expelled through the stenosed