The view that acute rheumatism is the result of an infection has been greatly strengthened and rheumatic processes have since the advent of the diplococcus rheumaticus been explained in a much more satisfactory way than ever before. The name streptococcus salivarius 2^e might, on the other hand, possibly lead someone to think that the solution of the problem of rheumatism lay in the fermenting of a few carbohydrates in a laboratory.

The latest phase of the rheumatic problem among bacteriologists is to look upon the diplococcus as a terminal infection. Dr. Andrewes and Dr. Horder have advanced this idea again in their paper. That explanation is inadequate and was disproved in our first contribution.¹ In Case 6, for example, that of a young man suffering from a second attack of rheumatic fever, with pericarditis and endocarditis, the diplococcus was isolated from the blood during life. This patient recovered and some five weeks ago Dr. W. H. Wilcox, who was a house physician when this patient was admitted under Dr. D. B. Lees to St. Mary's Hospital, told us he had received a letter from the patient saying that he had never been out of work since. As this was more than six years after the illness we must, we think, alter our conception of terminal infections if we accept this as an example of its occurrence. Then, again, we have isolated it from the knee-joint of a patient who never looked like dying and made a good recovery, and from the blood of a young woman who succumbed weeks later from sudden heart failure, having recovered from acute pericarditis, the occasion of our cultures. A careful study of the tissues in experimental rheumatism also makes this view untenable.

In such cases as these the authors would perhaps fall back upon their alternative—that we had isolated a chance micro-organism of malignant endocarditis. Certainly we had, in that it was the diplococcus rheumaticus which may produce that condition, but none of these cases showed any conclusive evidence of malignant endocarditis and in the fatal case we can positively affirm that there was the usual simple rheumatic form, for we made the post-mortem examination ourselves. It is melancholy to come back again to another suggestion by the authors to the effect that acute rheumatism is not primarily streptococcal, but that certain of its manifestations—e.g., endocarditis—are. This is an old story and any merit there may be in our work consists in the laborious studies that we have been making for ten years in order to show—as we venture to think we have succeeded in showing—that all the cardinal lesions of rheumatism are identical if due allowance is made for the anatomy of the different organs. The diplococcus can be found in all. All can be reproduced. Take them away from rheumatism, what have we left? Take away the cardinal lesions from tuberculosis, what have we left? Not the disease, but the generally admitted constitutional tendencies that exist in both cases. We are disappointed at their failures with rheumatic pericarditis, but console ourselves that others have succeeded, notably Wassermann, Triboulet, Ainley Walker and Beatson, Beattie, and others on the continent.

One more statement we wish to dispute. Of the problem of rheumatic fever they write: "The problem is fully as complex as is that of scarlet fever and is apparently as far from final solution." On the contrary, we think the problem of rheumatism is less complex than that of scarlet fever and apparently nearer final solution, and for these reasons: 1. Scarlet fever is very contagious, rheumatism is not, and as we know nothing of experimental streptococcal contagion we have that additional difficulty to cope with in scarlet fever. 2. Rheumatism is strongly hereditary; scarlet fever is, we fancy, not. There is, then, good reason for believing that in rheumatism there is some tissue peculiarity which offers another path for investigation. In scarlet fever there appears no hope in that direction. 3. In rheumatism one micro-organism certainly can be isolated from all the cardinal lesions of the disease and is capable of reproducing them. Whereas, unless Chance of Chicago has succeeded, no one has reproduced the cardinal feature of scarlet fever—its contagiousness.

In conclusion, we would point out that those who attempt to establish a scientific fact take upon themselves a heavy burden, and such work is easily tarnished. For this reason we regret that a bacteriologist of the position and eminence of Dr. Andrewes should have permitted the sentence, "Another specimen from a case of chorea kindly sent us by

Dr. Paine was unfortunately dead and could not be tested." We can affirm that this culture was living when it left our hands; of its later career we have no knowledge; but seeing that it was found dead it would have been easy either to have asked us for another or to have omitted any observation, or even to have substituted the more accurate "had died" for "was dead."

We are, Sirs, yours faithfully,

F. J. POYNTON,

ALEXANDER PAINE.

Nov. 19th, 1906.

HOSPITAL DENTISTRY FOR CHILDREN.

To the Editors of THE LANCET.

SIRS,—The importance of good dentistry for children is recognised by all well-to-do parents. The children of the poor, whether their parents take enlightened views or no, are usually condemned by circumstances to all the drawbacks attending neglect of the teeth. May I state a few facts in your columns about an effort at the North-Eastern Hospital for Children to meet this situation?

Situated in the centre of one of the poorest and most densely populated quarters of London, surrounded by a wilderness of slums, where dirt, squalor, and starvation reign supreme, the North-Eastern Hospital for Children carries on a good work, the value of which it would be impossible to over-estimate. In 1905 the in-patients totalled 1609 and the out-patients 27,333, the total attendances being 75,637. These figures will give some idea of the task which the hospital has to cope with. The in-patient accommodation consists of 125 beds and rarely do they lack occupants. In 1897 the staff, recognising the tremendous amount of dental disease among the patients and the necessity of special provision for dealing with it adequately, resolved to enlarge the scope of the hospital by creating a separate dental department, and in order that the best results might be obtained appointed a salaried dental officer and equipped the department with all the instruments and appliances needed for the conservation as well as the extraction of teeth. This step, at the time, was quite a pioneer one as regards children's hospitals, and at the present date is still unequalled in its completeness. Since the department has been established plenty of patients have been found to keep the dental surgeon busy, his aid being frequently called for in cases of anæmia, malnutrition, gastro-intestinal disorders, or any others in which bad teeth might play a more or less important rôle, locally or remotely, the result being in many cases to hasten considerably the date of recovery. Cases where the removal of adenoid growth and enlarged tonsils is indicated are, prior to operation, referred to him to have the mouth put into as healthy and efficient a state as possible, by the removal of hopelessly carious and diseased teeth and the stopping of others. It is hardly necessary to multiply instances to show the value of a properly equipped dental department to a children's hospital; many other cases might be cited where the best results in treatment can only be obtained by the coöperation of the dental surgeon.

It has become common knowledge in the district that special provision is made at the hospital for treating children's teeth and many cases come solely for dental aid, the determining factor in most of them naturally being toothache. As may well be imagined, among patients living in such terribly unwholesome surroundings the teeth are frequently in a most deplorable state of neglected caries, the mouth being septic and evil smelling in the extreme. This, of course, necessitates a large number of extractions, principally of the temporary teeth, as the age of patients is limited to 12 years. In most cases, practically in all where the operation might reasonably be expected to cause pain, an anæsthetic is given. This besides being humane is also good policy, where subsequent treatment in the shape of stoppings has to be done, as it is then essential to gain the child's confidence at the first visit by not inflicting pain. As a dental anæsthetic for children ethyl chloride is unrivalled, and for the past two and a half years has been exclusively employed in the dental department. This period embraces about 1800 administrations for dental purposes only, no fatalities having occurred and very few cases giving rise to any anxiety. As there was no selection or previous preparation of cases, the patients always being treated at the first visit, this speaks volumes for the safety of the anæsthetic. The clothing is always loosened prior to administration. In most cases the period of anæsthesia is long

¹ THE LANCET, Sept. 22nd, 1900, p. 861.

enough to do all the necessary extractions at one sitting, and this is an important gain as in many of the patients, as might be expected, the desire for dental treatment ceases with the loss of the aching tooth; hence the importance of doing all possible for them at the one visit. The knowledge that their children's bad teeth will be painlessly extracted, too, has a very calming influence on the minds of parents, who might, many of them, not otherwise be brought to listen to reason.

Not the least important point gained by hospital dentistry is the education of the public to a proper knowledge of the importance of the care of the teeth. The most careless parents cannot fail to notice the improvement in health consequent upon the removal of diseased teeth and the stopping of others. The child is able to masticate without pain and to sleep at night, when before, perhaps, it was a common occurrence for its own and its parents' rest to be continually broken. As a consequence, many of them become quite anxious to learn all they can about the preservation of their children's teeth, which is, of course, very gratifying to the dental surgeon. A leaflet giving simple instructions on the use of the tooth-brush and the golden rules of dental hygiene is freely distributed among patients.

I am, Sirs, yours faithfully,
SAMUEL F. ROSE, L.R.C.P. Lond., M.R.C.S.,
L.D.S. Eng.

Queen Anne-street, W., Nov. 19th, 1906.

THE ADMISSION OF WOMEN TO THE DIPLOMAS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

To the Editors of THE LANCET.

SIRS,—As the mover of the resolution at the recent annual meeting at the Royal College of Surgeons referred to by your correspondent Mr. F. G. Parsons, I should like to say that I share his regret that the question of the admission of women to the diplomas of the College should not be adequately discussed before a poll of the Fellows and Members is taken. I do not think that the meeting had any desire to burke discussion of the subject, but rather to secure that a real decision by the majority of the corporation should be taken. As is well known, the meetings as hitherto called by the Council are not statutory, and though they might discuss the subject could not decide it. I believe that under corporation law the Council would be absolutely bound to carry out the decision of a statutory meeting, which might be very poorly attended. My own conviction is that the majority of Fellows and Members retain an open mind on the question and are quite ready to listen to arguments from both sides.

I am, Sirs, yours faithfully,

Nov. 26th, 1906.

W. G. DICKINSON.

LONGEVITY AND THE MEANS OF ATTAINING IT.

To the Editors of THE LANCET.

SIRS,—In the estimation of even the most sanguine among us there is no such thing as a reprieve from the sentence "thou hast lived," no blank cheque to be drawn after bankruptcy upon an imaginary bank of life—in short, no remedies labelled "elixir vitæ statim sumendum." The question is whether we can ever modify in any direction the rate at which we are being used up from the moment we begin to grow. Great individual differences in the rate of ageing become apparent during the middle decennia; and they remind us of the operation of forces as decaying to stem as the sea, yet like King Canute we are content to discuss the point, and we avail ourselves of our ignorance as clinicians to be hopeful still, to avoid pessimism to which there are no practical uses, and rather to lean the other way where illusions dwell which are beneficent. At any rate we are all agreed that vitality which can be lowered artificially even to the point of suppression may sometimes be raised from its depressions. In reality "prolongation of life" means nothing more than "a full and fair measure"; and to secure this two methods are available.

1. Concerning the "passive or defensive measures" by avoidance of disease and of other risks Sir Lauder Brunton in his eloquent address has much to say which we should lay to heart. 2. My own humble efforts have run parallel with

those of Sir Hermann Weber in search of the "active, life-sharpening measures." Their practical details cannot be dealt with here; but a few brief remarks may be permitted on the general physiological and pathological question.

As to the physiology of longevity and the means of attaining it, it may perhaps be claimed that there are two essential and mutual forces at play, the moral factor and the physical, and that the success of any physical system of treatment is largely dependent upon the quality of the moral factor in its two aspects—a strong desire to live and a definite purpose in life. It cannot be doubted that longevity is favoured (1) by a keen love and enjoyment of life, "Lebenslust und Lebensfreude," and (2) by some adequate occupation, even if it be but a "hobby," which shall be engrossing, permanent, and progressive. But in addition, so long a study as that of the art of long life needs to be undertaken early and sustained to the finish. And in this connexion it has occurred to me that our most ancient prescription for longevity is difficult to surpass in its wide suggestiveness. "Honour thy father and thy mother" implies a prolongation of youth and of that "status pupillaris" which in our own profession is a permanent blessing. It suggests also under the implied devotion of filial service the early acquisition of a life-prolonging habit of labouring for others rather than for self.

Whilst we may safely moralise in terms of physiology, the pathology of the question admits of no dogmatism. We are mainly confined to opinions; and as such I have ventured to express the following views: (1) that the arterial degenerations, though exceedingly prevalent in the aged, are not a normal development but in the nature of a disease; and (2) that (apart from syphilis so largely responsible for arterial damage, and from other toxæmias, particularly the urinary) the disease is one of malnutrition and obstruction derived either from overwork of the arterial coats and possibly lesion of the intima, or, much more often, from over-rest and stagnation. This view may be wrong, but it gets support from the practical results of the application of a leading principle for the furtherance of longevity, the principle of keeping up a legitimate amount of physical and mental activity, combined with abundant rest: "otium cum labore."

Whilst the gradual necrosis of disuse is wasting the ancient frame and bending it almost into the egg shape from which it arose the waste material is being safely disposed of. The cannibalism of our phagocytes does away with the more tender parts whilst the tougher are sealed up in lime salts. Sir Lauder Brunton's view seems to be that the necrosis itself is to be attributed to previous vascular disease. I am rather inclined to reverse the venue and to blame the disuse for the destruction of the vessels. This question has also a close bearing upon the etiology of "senile high tension." We should not overlook the fact that the senile shrinkage of the body means the disappearance of vast networks of capillaries, whilst none of the "anatomical" arteries and veins are destroyed. This fact opens up various considerations which space does not permit me to discuss, but it may possibly be a factor in the increase of arterial pressure and may be connected with the physiological necessity for a higher pressure to permeate less patent channels and to stimulate more torpid cells. The most familiar of our instances of wholesale destruction of capillaries secondary to disuse is furnished by the atrophic vesicular emphysema of the obese in relatively early life. Had they not failed to exercise their lungs their pulmonary capillaries, which were pervious and healthy, and their likewise healthy alveolar septa, would not have been eaten away.

In regard to the mechanism of the arterial disease I find myself in entire agreement with Sir Lauder Brunton if I am right in assuming that "stagnation and obstruction," although he does not specially mention them, are implied in his suggestion that restricted arterial oscillations are a cause of arterio-sclerosis. My own views are indicated in the following extract from "An Introduction to the Clinical Study of Vascular Disease," delivered on June 19th, 1906, at the Medical Graduates' College and Polyclinic.¹

An efficient elastic fibre is essential to the continued health and fitness of the artery, and an exceptionally perfect fibre is probably the first condition for longevity. Besides this circulatory function, there is another duty entrusted to the elastic fibre, that of *promoting its own nutrition and that of the entire arterium*, by furthering the intramural circulation of plasma. As in the heart itself, the rhythmic pumping action of systole and diastole may be regarded as a condition of existence; and this would be favoured by oscillations of ample extent and

¹ Cf. Edinburgh Medical Journal, September, 1906, p. 204.