And if *three years*, why not *three months*? But could a surgeon who looks at facts, rather than at figures and fancies, regard the three-year group of operations-cases or even the ten-year group as *cures*? I think not. It may be much more than ten years before that little mass of drifting cancer-cells is, by chance, found cast up in an ovary or in the uterus. And if when the unwelcome discovery was made the *Table of Results* which counted that particular case amongst the *Cures* had not been already published, an important change in its appearance would have reluctantly to be made.

Far be it from me to write as one without hope with regard to the cure of cancer; but neither aspirations nor statistics can alter plain pathological facts. And it seems to me that just now Surgery (with, perhaps, a becoming wish to remove attention from her red-stained apron, and to show herself less displeasing to the public eye) is growing a little too free in the use of the word *cure* in connexion with the treatment of cancer. Surgery should remain cold and unemotional, and, though full of hope, should not go in advance of facts. And one fact is this, that at present it is beyond her power to undertake to *cure* cancer—neither can x-rays nor Finsen's light, nor can any drug or nostrum taken internally or applied locally, do this. Treatment is, unfortunately, not the same thing as cure, and the most effectual treatment for cancer is still removal by the knife. Certainly for anything more serious than a small surface-growth, no measure is so trustworthy. And the great advantage which this method has over all others is that it enables the surgeon to take away also the neighbouring lymphatics, and the outlying lymphatic glands. It is by the greater freedom and thoroughness of modern methods of operating, that Surgery has of late made such great advances in the treatment of the disease. That she has advanced, and is still advancing, is beyond dispute.

And though Surgery is still unable to lay claim to curing cancer, operation, if done early and freely, and repeated again and again if need be, can, in certain cases, bring lasting relief. The following report serves as a good example of this ability:—

In May, 1876, Sir William (then Dr.) Broadbent sent to me a domestic servant with cancer of the right breast. And in doing so he asked me, if I thought fit, to try the effect upon the growth of injections of acetic acid—a method of treatment in which he had formerly been much interested. The patient, Mrs. —, was 55 years old, a widow, who had never borne a child. She said that she had noticed the lump in the breast for about three months, and that for a long time before this she had been much troubled by feelings of pin-pricking there. The lump was very hard: there could be no mistake as to its nature. I very willingly carried out Dr. Broadbent's suggestion, making injections at six different times. But finding that the tumour was steadily getting larger, I freely removed the breast with the knife in the following July. After the operation I cut the tumour across: it was as if one were drawing the knife through an unripe pear.

Fifteen months later, namely, in October, 1877, she came up again because a hard lump of the size of a large walnut had grown upon the scar. This was freely removed by the knife, but very soon afterwards another growth appeared, which I dealt with in the same way in February, 1878. In December, 1879, she was again in trouble with the scar, so I once more operated by a clean sweep; and as at this time there were some enlarged glands in the arm-pit, I did a more thorough operation, clearing away all the axillary lymphatics. This was the last operation done upon her, and soon afterwards she asked me to fill up a schedule so that she might become a pensioner at the Royal Hospital for Incurables. This was rather more than a quarter of a century ago, and she has ever since been happily drawing her pension.

In answer to a letter from me, she wrote on March 24th, 1905, as follows: "You will be pleased to hear that I am wonderfully well and active, in my 84th year. Just now I am busy knitting night-socks for a kind lady."

If I kept statistics of operative work—a dangerous thing for some of us—I think that I should be almost tempted to claim this particular case as a cure of cancer by operation. And no one, I believe, would accuse me of undue haste in reporting the case or of arrogance in making the claim. I have other cheering cases which, were I a surgical statistician with a time-limit, I might be inclined to place with it. But, as it is, I shall let Mrs. —'s case stand

by itself, and shall content myself with saying that in the other cases there is at present "no sign of return"—and this, in my opinion, is as much as a surgeon is ever justified in claiming as the best result of his treatment of cancer. For, unfortunately, the "cure" of cancer seems still to be as far off as ever.

Great Cumberland-place, W.

CYLLIN INHALANT.

BY E. KLEIN, M.D., F.R.S.,

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CONSIDERING the importance attaching to the presence of micro-organisms such as the staphylococcus pyogenes aureus and the streptococcus pyogenes in the purulent contents of the bronchial branches in pulmonary tuberculosis it was interesting to ascertain whether the new drug termed "cyllin inhalant" (which is not to be confused with the ordinary cyllin) has any germicidal influence on the above microbes. Experiments were therefore made with the staphylococcus pyogenes aureus in the following manner. Two surface agar plates were infected in the same manner

and at the same time from the same active culture. One of the plates was kept as a control, while the other was operated upon in a Bulloch chamber with the "cyllin inhalant" for ten minutes, after which period of time it was left in the closed chamber exposed to the residual cyllinised air for one hour. The plate was then taken out and placed with the control

plate in the incubator. After two days' incubation at 37° C. the control plate showed copious and normal growth (Illustration No. 1) of the staphylococcus pyogenes aureus, whereas the medicated plate (Illustration No. 2) remained quite free of growth. This interesting result, therefore, suggests the use of this new inhalant in combating the symbiotic action of the pus microbe in pulmonary tuberculosis.

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THE RELATIONSHIP BETWEEN DENTAL AND OTHER DISEASES.¹

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IN venturing to offer a few remarks this evening on the relationship between dental and other diseases I do so with a considerable amount of diffidence because the whole matter has been treated in an exhaustive manner, not only by members of this society but by members of the medical profession. This is a many-sided subject, as wide as it is difficult, and I can only hope—as a dental surgeon speaking to fellow practitioners—to add my mite by falling back upon experience which we are told will even make fools wise.

What do we mean by disease? Is it possible to define it? Disorder in the living body might be a brief definition; but we must go further than that. This body is made up of myriads of smaller bodies—described as cells—each possessed of its own living entity, doing its own work, exercising its own function; whether that be of nervous conductivity, muscular contraction, or glandular secretion; whether it be of circulating in the fluids of the tissues or helping to build up the framework of our bones and teeth. Having one common ancestor their intimate relationship cannot be denied.

To the disturbance or disorder in this marvellous organism many sciences are called into consultation and among them may be found biology, physiology, chemistry, and bacteriology. If we inquire of these sciences, "What is disease?" one will tell us it is a change in the structure and functions of the cells; another may inform us that it is truly a chemical change in the tissues; and yet again, that all this disorder is due to the invasion of our cells by micro-organisms. To all these statements we may willingly assent, but do not let us forget that whatever our feelings may be toward the pathogenic bacteria, micro-organisms are our great benefactors. They serve us for useful purposes in the bread we eat, in the wine and water we drink, in the air we breathe. Without their aid our ground would be unfit for the crops we grow. They are the universal scavengers both within and without this body of ours, and, curiously enough, we are daily using their own productions in order to bring about immunity from the toxins of their fellows. So we may say with truth that "disease is the non-adaptability of man to his environment." This seems to be a generalisation of our great philosopher Spencer (though I cannot trace it); but let us come closer home.

Huxley, in one of his lectures, makes this terse statement: "The living body is a mechanism, the proper working of which we term health, its disturbance, disease; its stoppage, death." Most diseases of the human body are brought to our notice by the symptoms which are rendered obvious to the senses of sight, hearing, and touch. To us as dental surgeons pain and swelling in the facial region or an alteration in the form and colour of dental tissue recalls to the mind a structural change with which we are at once familiar; but how different it is with the physician when called upon to define this disturbance which may have for its chief manifestations constant nausea and vomiting, an irregular action of the heart, with occasional fainting fits, or again, a general lassitude with loss of appetite and a dusky pallor of the skin. These disordered functions are perhaps the only signs he can consider and his path is beset with difficulty for there may be many reasons why they may arise. It is a fact—of which we are well aware but just as likely to forget—that most of this living body of ours is hidden away from sight, and for this reason alone,

among many, much of our intimate knowledge of diseases must for ever be shrouded in mystery. How fortunate then are we whose treatment is largely based upon what we can see.

Accepting as we do a kinship in structure how best may we establish it in disease? Shall we seek it in its manifestations, its causation, or its treatment? Perhaps in all? Shall we find it in childhood, in adolescence, or in adult life? In all. I propose, therefore, to ask your consideration for a short time to cases which are to be found in a children's hospital—cases which (though for the most part dental) are intimately associated with an important factor in the production of disease—viz., perverted or mal-nutrition. They are chosen simply as types from a large number and upon them I hope without wearying you to make such observations as may seem desirable.

CASE 1. Alveolar abscess: lymphatic glands enlarged; suppuration extending from a temporary molar to a sound permanent molar.—The patient, a boy, with dark complexion, aged six years, was admitted with a swollen cheek. The temperature was normal. The lymphatic glands were much enlarged in the neck on the right side. On examination the second temporary molar on the right side of the mandible was deeply carious; the six-year molar behind it was free from caries and freely moveable; pus was oozing out round the necks of both teeth. Ethyl chloride was administered and both teeth were removed. The distal root of the temporary molar was necrotic. The permanent molar—quite sound—with roots only half developed was floating in a bed of pus. The source of the trouble was evidently the temporary molar. Inflammatory products had found their way from it through the bone to the softer tissues of the developing molar roots, destroying them. The only analogous cases are those which one not infrequently finds in connexion with bicuspid where after the extraction of a septic temporary molar the bicuspid crown is found free, moveable, and surrounded by pus, its vitality entirely destroyed.

CASE 2. Stomatitis.—The patient was a girl with fair hair and pallid complexion, aged seven years. The breath was very foul. There was a free discharge on the pillow every night. On examination the lower temporary molars on the right side and the first temporary molar on the left were found to be deeply carious. The mucous membrane round the necks of the teeth had a necrotic margin and was deeply congested; that portion of the mucous membrane of the cheek which lay next to the teeth had patches of ulceration. Ethyl chloride was administered and the teeth were removed. A mixture of chlorate of potassium with cinchona bark was ordered, also one and a half pints of milk to be taken during the day with meals. In a fortnight the child was quite well.

CASE 3. Eczema.—The patient, a fair-haired boy, aged three years and 11 months, was admitted on Nov. 5th. He was pallid and anæmic; he screamed at night with pain. On examination there was a well-marked eczematous rash on the face, especially on the right side, with a few spots on the left side; the second temporary molar on each side of the mandible was deeply carious and the nerves were exposed. The tonsils were enlarged. The child snored at night. The mother stated that the boy had had the rash before, at three months and at three years. The boy could not eat. Both of these teeth were removed. One drachm three times a day of mistura ferri perchloridi was ordered. On Nov. 12th the rash was rapidly disappearing. There was no pain at night; he could eat with comfort. On the 19th the rash was gone and the patient was quite well.

CASE 4. Defective teeth and improper diet.—The patient was a fair-haired girl, aged two years and seven months. She was too ill to walk. On examining the mouth all the teeth were carious with the exception of three lower incisors and the left lower canine. The whole of the teeth in the upper jaw were sodden and level with the gums with the exception of the second molars. The mother said that this was her ninth child. She had had ten children; eight were living. She fed the child on bread and dripping, potatoes, and haricot beans, but no milk or meat. Ethyl chloride was administered and ten teeth were removed in two operations. A chlorate of potassium mixture with cinchona was given, a teaspoonful three times a day, and the mother was requested to give the child one pint of milk each day, a little meat, and no potatoes. In less than a month the child had gained eight pounds, was bright and cheerful, and running about.

CASE 5. Malnutrition.—The patient was a fair-haired boy, apparently well nourished, one year and nine months old.

¹ A paper read before the Otolological Society of Great Britain on Jan. 23rd, 1905.