melancholia, and was soon quite insane. It seemed clear that his altered circumstances and the responsibilities of ownership and management had brought about his downfall. He had, however, a very septic mouth; extraction of all his teeth was followed by complete restoration to mental health.

Case 4.—In this instance a man had no fewer than three sources of septic absorption: he suffered from chronic nasal sinus disease, from dental sepsis, and from chronic appendicitis. The mental state was one of extreme introspection, with definite suicidal tendencies. Surgical treatment of all three foci has been carried out. It is six weeks only since this was completed. He says he is "a new man." Although the history is so recent, it is full of promise.

I think it probable that most of the cases of puerperal mania are septic in origin—perhaps the actual focus of infection is small and the grade of infection low. The important point seems to be that, if in a given case of mental disease we can find the cause, and eliminate it, we shall be able to give a good prognosis. This good prognosis we are accustomed to give, for example, in cases of post-typhoid insanity, because we recognize that the toxic state does not last. It is therefore of the greatest importance that we do not overlook any source of chronic poisoning when called upon to examine a patient with mental disturbance. A careful and thorough physical examination is more likely to be fruitful than investigation of the origin of the mental state along psycho-analytical lines.

FOCAL SEPSIS OF DENTAL ORIGIN CAUSING MENTAL IMPAIRMENT.

BY

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It has not been my fortune to treat any cases of definite insanity, but I have had a number of cases showing severe if non-certifiable mental impairment. I think my best contribution to the discussion will be to give you a short account of three of these.

Case 1.—The brother of a professional man was brought to me during the war. He was a soldier on sick leave, and for eight months there had been no improvement in his condition. He showed the most extreme degree of apathy. If sitting at table, he would get up for something and forget before he had taken two steps for what he had risen. In speaking he would leave out words, or break off in the middle of a sentence, unable to finish. He was dull and listless, dispirited, slow, tremulous, and uncertain in his movements; his complexion was a sickly earthy colour. He had some dull dental pain, which did not seem to be a matter of importance, but he had been persuaded to seek advice for this symptom. His mouth was in a terrible state, full of crowns and bridges, the roots supporting which were mostly suppurating. Under general anaesthesia a complete clearance of the offending teeth was made. Within a fortnight the good effect was apparent. His colour improved, his health became normal, his spirits returned, and his mind became alert. He returned to his duty, and has remained well since.

Case 2.—A clergyman on a visit to Clifton was brought to me on account of offensive breath. His appearance was dreadful, his colour ashen-grey, his speech slow, hesitating, and indistinct. He showed an absolute lack of initiative and volition, and simply did what he was told in everything. He had had to give up his work owing to loss of memory. I found a mouth full of pyorrhoea, with teeth mostly loose, and the odour beyond description. A complete dental clearance was made. His health, physical and mental, was restored to normal; he was able to go back to work, and has been busily employed ever since.

Case 3.—A woman, aged 38, was white-haired, wasted, and looked 50. So great was her mental torpor that she showed a long latent period between hearing a question and giving the answer, so that one was inclined to think her deaf. The answer, when it came, showed that her mental processes were sound. She was suffering from sleeplessness and neurasthenia, and was extremely thin. Her mouth was in a shocking state, the few teeth she had left were either loose from pyorrhoea or dead and affected by periostitis; all the others had fallen out. Extractions produced a marvellous effect.

It is interesting to consider the route by which the toxin in these cases reaches the general circulation. In what for convenience I call the "open sepsis" of pyorrhoea the poison is swallowed, and perhaps, for a time, does little general harm. But presently the gastric defences break down, and absorption occurs. On the other hand, in the "closed sepsis" of apical abscess the absorption is directly into the circulation. In either case the toxin in the circulation probably directly affects the brain.

DISEASE OF THE ANTERIOR ETHMOID CELLS AS A CAUSE OF OPTIC AND RETROBULBAR NEURITIS.

BY

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So far as I am aware there are no recorded cases of optic neuritis and retrobulbar neuritis due to disease of the anterior ethmoid cells.

During the last eighteen months four cases of optic neuritis and one of retrobulbar neuritis have been referred to me for examination by Mr. Potts, the surgeon to the ophthalmic department of this hospital; in each the evidence that the anterior ethmoid cells were diseased was definite. With the exception of the case of retrobulbar neuritis there was evidence that the maxillary antrum was involved, no doubt secondarily. Logan Turner and J. S. Fraser have drawn attention to the fact that a definite condition of the eye and a definite condition of the nasal sinuses or sinus should be present before operation, and that it should be clearly directed to the particular nasal condition. The surgeon should have a clear knowledge of the position and relationship of the various nasal sinuses. An x-ray photograph will show if any of the cells are abnormally placed. Transillumination of the frontal sinus and maxillary antrum is an important aid in diagnosis. The directional action of the ciliated epithelium lining the various cavities should be known.

It is now known that nasal sinus disease may be a cause of albuminuria, arthritis, and certain toxæmias. These are distant infections, and are curable by operation on the affected sinus or sinuses; but the question arises whether the bony walls may become affected and infection thus spread to the overlying optic nerve. This may be possible in disease of the sphenoidal sinus and posterior ethmoid cells, but does not seem possible in the case of disease of the anterior cells. If infection does not spread by the blood stream, nor by contact, then I would suggest that spread takes place by the lymphatics. The lining membrane of the orbit and the sheath of the optic and third nerves are continuous, and the lymphatics must be continuous. Moreover, the nasal lymphatics can be injected through the lymphatics of the frontal region.

DIAGNOSIS.

Gross infection of the sinuses with a large flow of pus, with swelling and moisture of the mucous membrane of the nares, does not seem to be a necessary condition attending optic nerve disease. The most severe cases are those in which the mucous membrane is dry and the pus thick and scanty; in them operation yields the most favourable and dramatic results. In anterior ethmoid disease pus is seen in the anterior part of the middle space, and in the posterior nasal space it is seen winding round the Eustachian cartilage. The position of the referred pain is a useful guide to anterior cell disease. It is assumed that cases of optic neuritis due to causes other than nasal sinus disease, such as cerebral pressure, cysts, etc., of the pituitary fossa, tertiary syphilis, or nephritis, will not come into the hands of the rhinologist, but he should be able to say quite definitely whether or no his help will be of use. If the relationship of the rhinologist and the ophthalmologist had been closer in the past, as present-day knowledge impels it to be, then Mr. Rudyard Kipling would have wrought a happier ending in his book *The Light that Failed*.

OPERATION.

I remove as little as possible of the middle turbinated bone. Anterior turbinectomy is all that is necessary. I use a punch forceps and a small ring knife to open the cells. Complete exenteration may be necessary, and I have even felt the instrument to be in contact with the soft tissues of the orbit. Ecchymosis of the eyelids sometimes follows; it causes no inconvenience to the patient and is soon absorbed. I use lavage for some days previous to operation; if improvement takes place then no operation may