reached a full appreciation of these infections since Wilhelm Meyer in 1868 first described 'Adenoïde Vegetationen' and the wondrous results following their removal... At that distance of time, now over sixty years ago, we attributed the symptoms far too much to mechanical nasal obstruction, whereas nowadays we realise that it is the degree of sepsis, not the hypertrophy, that measures the mischief caused by these infected lymphoid aggregations known as septic tonsils and adenoids."

After recording graver forms of disturbance of mind and character caused by the more pronounced toxæmia, and giving an example of definite alteration in character and mental perversion, bordering on certifiable insanity in a patient who was rapidly restored to a normal condition by drainage of one infected sinus, the author points out that "crossing the threshold under certification naturally does not prevent similar success in similar cases, if only the dominant focus can be located," and refers to examples of insanity cured by defocalization already published in medical journals, amounting to several hundreds, and adds "nor is focal sepsis of the nasal sinuses peculiar in this respect; such manifestations may be determined by aural-focal sepsis, and indeed by focal sepsis of any region, be it a tooth, gastro-intestinal or genito-urinary tract, etc."

The dramatic change in a patient in the Mental Hospital at Rubery Hill, Birmingham, who was found by suction exploration to have pus in the right spheroid and ethmoid after these had been disinfected and the ethmoid drained was startling. "Within a day he became amenable, began to talk sensibly." His recovery persisted, and four years later he was "quite well, working regularly."

## "The Pity of It."

"It is not suggested that in any patient a psychosis is wholly 'due to' a focus infection, for such mental states are not due to isolated or independent causes but to a complex of mutually interrelated factors, amongst which must be reckoned inherited biogenetic instability and the influence of adverse environment.

"The more pronounced manifestations are seen in the lunatic asylums, perchance in the prisoner or the suicide, amounting to a stupendous toll of truly national import, and the pity of it is that the causal infection is so largely amenable to successful elimination. These remarks apply equally to mental affections from aural sepsis."

The value of active treatment in nasal sinus infection, even in cases which have been considered hopeless, is shown by the following paragraph. "Graves reports that ' during the past five years special

research has been directed towards the clinical investigation of nasal-sinus disease in all cases of mental disorder admitted to the Birmingham mental hospitals, as well as to a considerable portion of the more chronic inmates.' Over 1,000 cases have been examined clinically, 880 of these by the Watson-Williams technique." (Exploral suction.) A great many were found to show evidence of nasal sinus infection. "The treatment of these conditions by sinus washout and drainage was followed in a very large number of cases by physical and mental improvement, even in cases that had been in a stationary or progressive phase of mental deterioration so long as to be considered hopeless. More than half the cases so treated have been discharged to the care of friends, and a large number of the remainder show definite improvement, both physical and mental." Here indeed is ground for hope in these most pitiable cases, both for the patients themselves, and for their relatives to whom their condition is a source of so much sorrow.

## Crime and Sepsis.

Concerning crime and sepsis Dr. Watson-Williams says that "on this important aspect of the mental disturbances determined by nasal or aural infection there are two directions in which the infective disease may operate :---

"The first by mental confusion and loss of memory. "In the second class with delusions of suspicion. or of being persecuted or poisoned, the unbalanced mind is liable to lead to disastrous crime... We are warranted in believing that mental depression and confusion may certainly suffice to account for criminal acts which are obviously stupid and utterly at variance with the known character of the perpetrator."

After relating cases of mental confusion and loss of memory due to chronic nasal sinusitis, which might have led to grave trouble, from which they recovered completely after the infected sinuses had been opened, drained, and ventilated, the author writes :--

"One enters on dangerous ground in touching on these aspects of 'psychosis' but it is a question too serious to ignore. This fortunately is already recognised as a consequence of encephalitis lethargica : 'the term " apache" has been used almost universally in the description of cases of chronic epidemic encephalitis whose chief characteristics are delinquency and bad conduct... from mischievousness to serious crime'... 'Children of irreproachable family, hitherto of exemplary behaviour and character, may in a very short period become guilty of every delinquency from mere naughtiness to cruelty and murder, and from mild bad habits to gross indecencies. Yet, unlike the troublesome mental defective, " the encephalitic" (delinquent) is almost invariably intellectually superior to his conduct' (McCowan) ... There is something devilish about a disease that may alter the whole individuality, emotionally and morally, which destroys Dr. Jekyll and leaves only Mr. Hyde' (Langdon Brown's Inaugural Lecture as Regius Professor at Cambridge)."

"We have," says the author, "already afforded examples of both psychasthenia and certified insanity determined by focal pyogenic infection and cured by eradication of the infection, and unless one is prepared to deny limitations of legal responsibility for post-encephalitic delinquencies we must concede similar limitations in the mental effects of focal sepsis. Where there is room for doubt, the accused should be subjected to competent medical investigation, for obviously common-sense revolts against attributing misconduct to any malady short of convincing proofs that serious pathological conditions have caused definite mental disease. In the young delinquent, at any rate, there is reason to believe the evil genius is often much more sepsis than Satan."

The author considers that "every industrial school, Borstal institution, prison and asylum calls for a more systematic medical investigation, not confined to the internal physician, but with the active co-operation of the aural, laryngeal, and dental surgeon. We learnt how to recover radium from rubbish. Can we afford to maintain in these human dustheaps, numbers of men, women and children, who, if adequately treated, might become useful and happy workers?

"Not many generations separate us from the day of primitive measures in the so-called treatment of insanity. Maybe equal success will attend the replacing of mere punitive measures by scientific treatment where there are definite sound reasons for delinquency having been determined by remediable disease, without discounting the sufferer's prospects in life by the unmerited taint of prison...

prison... "Though it may be difficult at present, and perhaps dangerous, to differentiate between those cases in which crime is determined by infections, and those due to intimate moral obliquity, it is surely our duty to consider how far sepsis should be ranged with other toxic causes of mental and moral degeneration, such as alcohol, morphia,



