troubled her for some days, and which she attributes to the tabloids; they are accordingly suspended.

May 8th.—Although the treatment has now been suspended for about three weeks there has been no relapse; tabloids are again resumed, one at each meal.

June 8th.—Treatment stopped, as she is now apparently quite rational. She frequently speaks about her home and children, and wishes to be discharged. She has undergone a complete transformation.

Case II.—Elizabeth K., admitted 7th August, 1893. She had been very violent previous to admission, having assaulted her father and mother and suffered from the delusion that her house was surrounded by men who attempted to get into her bed at night. From the time of admission till 27th January, 1894, her mental symptoms very much resembled the former case. She was morose and listless, and never employed herself in any way. When questioned she would very seldom answer. Thyroid treatment was begun on the same day as in the former case, the result being that the mental change was not quite so marked, but the physical change was much more decided, as the bronchocele has completely disappeared. The loss in flesh was also much greater. At present she is quiet, obedient, and industrious, and is apparently quite happy, but very seldom speaks.

Observations upon the Pathology of Othæmatoma. By Edwin Goodall, M.D., Joint Counties Asylum, Carmarthen.

About the close of 1892 I examined bacteriologically some cases of othæmatoma, with a view of ascertaining if there was any basis for the idea which occurred to me, and which I mooted in an article in the "Journal of Mental Science" for April, 1893, that that condition was the result of bacterial activity. In none of the cases examined was there a history of injury. In the first two (an adult imbecile and a chronic maniac) cover-slip preparations of the extravasated blood—taken with full precautions as regards cleanliness—showed staphylococci, singly, in twos, in fours, and in small groups. In size the cocci resembled closely S. pyogenes aureus or albus. An attempt to cultivate the organism on gelatine and broth failed; unfortunately no agar was at hand. In the light of subsequent experience, I believe that this failure may, with much probability, be attributed to the fact that the amount of material transferred to the culture-tubes was too small. Several drops of the sero-sanguinolent extravasate should be taken for each tube. In the third case (that of a dement) what appeared to be the same organism was found in the cover-slip preparations, and grown upon broth and agar in pure culture. A thick zoogloea-mass formed upon the surface of the broth. Upon the agar the growth first appeared in white points, these later ran together, the growth assumed a yellow tint, and the appearance became

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altogether like that of a cultivation of S. pyogenes aureus. In other tubes, however, the growth remained white throughout, so that S. pyogenes albus was present as well.

In Case IV. (melancholia with stupor, much resistance), preparations and cultivations were made with similar results, except that the growth was in this instance pure white, exactly like that of S. pyogenes albus.

In Case V. (general paralysis) apparently one of the same cocci as were present in Case III. (S. pyogenes aureus) was found upon the cover-slips and nutrient media.

In all cases the blood was taken for examination within two days of the appearance of the extravasation, with a single exception (in which, it may be noted, the cocci were present); in this case the hæmatoma was a fortnight old. Growth appeared, in the various cases, in from 24-48 hours, at the body temperature.

I have lately examined in two other cases (of general paralysis), with negative results.

In one instance there occurred in the cover-slip preparations, in addition to the cocci, a torula. This specimen Dr. Sims Woodhead kindly examined for me. In his opinion the presence of the yeast rendered it probable that, in this case, at any rate, penetration of surface-organisms had taken place through the superficial tissues into the subjacent extravasate, owing to impairment in the nutrition of the former. Dr. Woodhead allowed, however, that this explanation was open to doubt. The almost invariable occurrence of the cocci within small plaques of homogeneous appearance (stained a faint violet by gentian-violet) renders it, I think, very improbable that they were mere surface-impurities.

It remains to be determined whether micro-organisms occur with any degree of regularity in the sero-sanguinolent fluid present in the tissues of the ear in otbæmatoma, and, if they do so occur, whether an etiological significance attaches to them. Such a supposition is, in my opinion, perfectly rational, and not necessarily inconsistent with a history of traumatism, where that can be established.

It would further be of interest to examine bacteriologically the extravasated blood in recent cases of "hæmatoma of the dura mater."

Within the past two months I have come across an article in "Rivista Sperimentale di Freniatria," Vol. xviii., fasc. 384, 1892, by Pellizzi, from which it appears that that in-

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vestigator has found streptococci in the sero-sanguinolent extravasate in five cases of othæmatoma. This affection Pellizzi believes to have an infective origin. Upon this opinion he bases an antiseptic method of treatment—viz., free incision into the cavity of the othæmatoma, followed by thorough washing out by sublimate. Pellizzi's observations and my own are independent. The priority rests with him, though I became aware of his results only this year. The fact that the respective investigations point in the same direction, as regards results, enhances the interest of the subject with which they were concerned.

The Morbid Changes in the Cerebro-Spinal Nervous System of the Aged Insane. By Alfred W. Campbell, M.D., Pathologist, Lancashire County Asylum, Rainhill.

Of recent years a considerable amount of study has been devoted to the nerve changes which are to be found in sane patients dying during the senile epoch, but comparatively little has been written concerning the alterations which occur in the nervous system of aged insane individuals. The object of this communication is to attempt from the pathologist's standpoint to elucidate some of these characteristic senile phenomena. I propose to briefly describe the morbid changes, both macroscopical and microscopical, which in my experience occur in aged insane persons, and to conclude by offering some remarks on the pathology of certain of these phenomena which I have particularly investigated. Before proceeding further, I would mention that the entire material for my observations has been afforded by the Lancashire County Asylum, Rainhill, and to Dr. Wiglesworth, the Medical Superintendent of that institution, I am indebted for permission to make use of that material and the asylum records in the compilation of this paper. My investigations have extended over a period of 18 months, and comprise the partial examination of the nervous system of all patients over 60 years of age who have died since my appointment as pathologist to the asylum. Of such cases there have been 22 males and 28 females, their average age at death being 67·6 and 70·5 respectively.

Changes in the Encephalon (*Macroscopical*).—Adhesions between the dura mater and calvarium are frequent, and render the complete separation of that membrane from the

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