sacral region or corresponding region was observed. In only one case was its absence directly noted. In the others, in four the observations were made on dried specimens, and in the remaining the cases were either foetuses born dead or newly born infants, which either were not seen after the first week of extra-uterine life or died shortly, so that its absence might well be put down to their tender age. He strongly combats the idea of Ornstein that the tuft of hair was of the nature of a caudal appendage, and holds with Virchow and Recklinghausen that it is simply a concomitant sign of spina bifida occulta. He is strengthened in his opinion by the frequency of its presence in cases of spina bifida occulta so as almost to be a sign of this lesion, by the situation of this tuft altering with the different positions of spina bifida in the vertebral column, and by the frequency of growth of hair with other cases of altered or arrested development. He thinks that it is a sign of altered development caused by disturbance in the embryonic formation. The cause of its association with spina bifida occulta is not yet settled. Virchow advances the theory that it is of the nature of an inflammatory process. Recklinghausen thinks that it is due to a hyperplasia. Both theories have something in their favour.

As before mentioned, on either side of the vertebral cleft two little tumours were found of a lipomatous nature. Brunner and Recklinghausen have also met with tumours of a similar nature. Muscatello and Brunner believe that there is a fixed relationship between the appearance of the skin over the vertebral fissure and the parts constituting the spina bifida occulta. The former holds that in all probability the cicatricial appearance of the overlying skin indicates the presence of tissues of foreign formation in the vertebral canal below. It is worthy of note that in Jones's and Virchow's cases, where the skin overlying looked of normal appearance, the fissure was covered over by a membrane, and no tumour or neoplastic tissue was found. In Brunner's and Corrado's cases a small area of complete anæsthesia of left foot of the size of a centime piece was found, as in the present case. It would not be surprising if such an anæsthetic zone would lead to a perforating ulcer, as in several cases recorded.

A. J. EADES.

Pseudo-hallucinations [*Psychical Hallucination of Baillarger*]. *A Contribution to the Psychology of "Demenza Paranoide."* (*Riv. di patol. nerv. e ment.*, vol. vii, fasc. 1, 1903.) *Lugaro, E.*

Lugaro enters very fully into the literature of pseudo- or psychical hallucinations, and gives notes on eight cases markedly illustrating this form of mental disorder. From these he draws the following conclusions:

Special characters of pseudo-hallucinations.—In certain cases, states of consciousness are present which consist in mental images free from any sensory character. They consist generally of images of heard words (internal voices transmitted by mysterious agency), but may assume the shape of simple (apart from verbal) images, of ideas, thoughts, or direct suggestions. Very characteristic is the antagonism of these mental images to the remainder of the consciousness, which

causes them to be held as extraneous to the patient's personality, as the thoughts and will of some one else. They are always recognised by the patient as morbid, and, even when associated with true hallucinations, are distinguished from these by their subjective character. Neologisms are often used to express these images. It is necessary to trace the relationship between pseudo-hallucinations and the so-called epigastric voice, psycho-motor verbal hallucinations, reduplication of personality, the thought expressed aloud (*Gedankenlauterwerden*), compelled ideas, verbal impulses, and compelled actions of every kind.

Pseudo-hallucinations and auditory hallucinations.—The characteristic feature of true hallucinations is their objectivity. They (auditory hallucinations) are as real to the patient as the voice of the doctor who may interrogate him, and are recognised as distinctly objective. The pseudo-hallucination is quite different. Patients will say they hear the voice of So-and-so, but only in a metaphorical way, and not through their ears. That they are *mental*, and can suggest certain acts.

Pseudo-hallucinations and epigastric voices.—As a rule the epigastric voice is the result of pseudo-hallucinations of heard words associated with hallucinatory sensations in the abdominal or thoracic viscera, where the patient localises it. This is not the universal view. Some authors hold that it depends on psycho-motor verbal hallucinations, others that the visceral hallucination is always associated with true objective auditory hallucinations. The author's view is that the epigastric voice is mental, aphonic, determined by pseudo-hallucinations accompanied by abnormal sensations in the viscera involved. The phonetic apparatus may be the seat of hallucinatory sensations, but this is not necessary for the phenomenon of the epigastric voice.

Pseudo-hallucinations and psycho-motor verbal hallucinations.—If an abnormal sensation conjointly with a pseudo-auditory hallucination can locate the internal voice in the viscera, thoracic or abdominal, why should not analogous sensations in the apparatus of phonation cause the idea of a voice of an extraneous personality which has the power of compelling the patient to pronounce words independently of his will? It would be strange if, considering that hallucinations may arise in any part of the sensory field, the muscle sense of the phonetic apparatus were alone exempt. A pure psycho-motor verbal hallucination should only give the patient the illusion of speaking without hearing his voice, because the stimulation of the psycho-motor centre of speech from an endogenous cause should necessarily be projected into the organs of phonation and nowhere else. There is no emission of sound. Motor-verbal impulses should not be confused with psycho-motor verbal hallucinations.

Pseudo-hallucinations and substituted personality.—In cases of pseudo-hallucinations there is frequently a delusional idea of possession, and consequently a feeling of a substituted or reduplicated personality. As the hallucinations assume the shape of language formulated by another, or of strange ideas abnormal to the patient's own train of thought, he believes that another personality speaks inside and directs his thoughts and will.

Pseudo-hallucinations, psychomotor hallucinations, and "the thought expressed aloud" (*Gedankenlauterwerden*).—Cramer and others held that psychomotor verbal hallucinations explained "the thought expressed aloud," since, they said, the subject of an hallucination in the motor speech centre does not attribute to his own personality the words formed by his tongue, and finishes by objectiving them, and by believing them to be an external repetition of his own thoughts. How an hallucination of a muscle sense can explain an auditory hallucination one cannot conceive. Numerous clinical facts go to show that here the auditory centre is involved, and that this is a true hallucination of hearing which follows and repeats the thoughts formed internally. One of the author's eight cases quoted was a most intelligent man who said that the voice which whispered his thoughts to him was quite close and was in the shape of a little devil, and clearly distinguished this objective voice from the *mental* voice which he also felt speak within. Tanzi's theory of the origin of hallucinations helps better to explain how the true echo of the thought may be formed.

Pseudo-hallucinations and compelled ideas.—There is not so close a line between pseudo-hallucinations and the so-called compelled ideas as one might imagine from the extraneous and antagonistic character of the former to the rest of the patient's personality. The compelled ideas are linked to the ordinary train of thought, and come by the normal associative paths. Their morbidity consists in the affective state of mind that accompanies and originates them. They are apprehended, and are fostered by repetition.

Pseudo-hallucinations, impulses, and compelled actions.—Compelled acts are often associated with compelled ideas and with the impulses so commonly met with in pseudo-hallucinations. These impulses are either a direct consequence of mental verbal suggestions, or else arise spontaneously and in a manner extraneous to the patient's personality, and he is only a passive factor in their execution. They are unforeseen, and as a rule of a frivolous nature. Compelled acts depending on enforced ideas are, on the other hand, foreseen and feared, always of a malevolent character, and at times instil horror in the patient's mind (ideas of suicide and homicide). There is a constant struggle between them and the volition.

As regards the *frequency* of pseudo-hallucinations, Baillarger states that they are present in the great proportion of chronic insane, as are true hallucinations in the acute form. Lugaro has made no accurate statistics, but thinks that in the chronic forms of insanity, with complex and varied delusions of persecution, hallucinations are rarer than is believed. Pseudo-hallucinations, it is true, predominate over the true. He strongly combats the view that the psychical are only a developing phase of the true form, and holds it far more probable that patients who have had at the commencement true hallucinations in great numbers, when the illness assumes a quieter, more chronic form, have hallucinations of a purely psychical nature.

Pathogenesis.—Lugaro says that pseudo-hallucinations are the result of an abnormal stimulation or irritation of the associative centres, and to support this premises the following conditions as present:—A hypersensitive condition of certain determinate systems and cortical regions,

a state of "elective irritability" of the same, and the action of a pathological stimulus travelling by paths other than the ordinary associative ones to the association centres, and thence by the ordinary association paths to the other centres in the brain. He says that the transformation and refining of a direct stimulus of "extra-associative" origin, and its admission into the state of consciousness, is easy of verification in the case of the association, but not of the sensory, centres. In "demenza paranoide," like stimuli of "extra-associative" origin, and a state of irritability of a certain system of cortical neurons, can be verified. In cases of katatonia, and also of general paralysis, which presents many of the symptoms of dementia præcox (*viz.*, motor impulses, muticism, negativism, pseudo-hallucinations), and also in climacteric melancholia, he has found marked alteration or destruction of the lowest layer of cortical cells, the polymorphous layer, with accumulation of neuroglia. By exclusion can be attributed to this layer of cells those functions which are injured in dementia præcox.

Finally, he makes a summary of his conclusions. Most of these have been noted before. He holds that pseudo-hallucinations, forced actions, and hallucinations in part, as well as the thought expressed aloud, compelled speech with suggestion, and epigastric voices, probably all depend on an internal cerebral irritation which acts independently of the ordinary mechanism of association. That true hallucinations have their seat in the sensory, pseudo-hallucinations in the association, centres. To explain the origin of complicated true hallucinations the centres of association must also enter into play. Pseudo-hallucinations, while frequent in the paranoid and præcox forms of dementia, are also met with in climacteric and senile insanity, and at times in general paralysis. The characteristic mental disturbance in dementia præcox, which is manifested in a pure and isolated form in certain cases of paranoid dementia, consists in the disturbance of the elaboration of the motives of action, of the will and conduct. The affective insensibility, the motiveless emotions, impulses, katatonia, etc., are dependent on this disturbance, and pseudo-hallucinations are probably its immediate associative effect. It is probable that this disturbance depends on an elective and systematised lesion of special cortical neurons. This system engaged cannot be either sensory or motor, because sensation and motion are unimpaired; nor can it be that destined for the association of images, for memory and ideation are intact. The lesion, then, must involve a system of neurons which holds the supreme coordinating power between representations, the corresponding emotions, and the execution of the acts. From the data to hand Lugaro is inclined to the idea that the system injured is contained in the deep layer of the cortex, the stratum of polymorphous cells.

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A Contribution to the Doctrine of Paranoia [*Ein Beitrag zur Lehre von der Paranoia*]. (*Allgem. Zeits. f. Psychiat.*, Bd. lx, S. 65.)
Schneider, H.

An old-standing case of paranoia is described at great length. It is the case which forms the subject of Kraepelin's fifteenth lecture (see that author's *Einführung in die psychiatrische Klinik*, 1901,