

the fifth or sixth séance. This change is felt especially in the painful phenomena which so frequently accompany Parkinson's disease.

Immediately after quitting the shaking chair, the patient feels himself lighter, it seems that his stiffness has disappeared, he walks better than before. Phenomenon nearly constant, the nights become good, the patient who tossed about incessantly in his bed, sleeps with a calm sleep which procures him a great relief. Except in one case the trembling did not appear to be sensibly influenced. This well-being makes itself felt especially the day of the treatment, hence the necessity of having daily séances. Unfortunately that is difficult at the Salpêtrière. The chair is moved by an electro-motor, and three times weekly we make use of that electricity to run the static machines. Besides, the séances have not perhaps been sufficiently prolonged. In fact it is difficult to give, when one has a certain number of patients, more than a quarter of an hour or twenty minutes to each one. We soon hope to overcome these desiderata; however it may be the results that we have obtained are most encouraging, the researches will be continued, and I will take the occasion to keep you *au courant* with what results we obtain. It is already a great deal to be able to help patients suffering from paralysis agitans, on whom ordinary medicines act with little efficacy as you know.

M. Gilles de la Tourette has not limited himself to watching the action of the shaking chair and to note his results, he has sought other applications of the vibratory method.

The results that I have indicated to you obtained by M. M. Boudet and Mortimer Granville had attracted his attention. To cure certain neuralgias, to possess a remedy which was said to be almost heroic against migraine, to give sleep to patients, to dispel the symptoms of neurasthenia, is no small matter in medicine.

M. Gilles de la Tourette had remarked in reading the article of M. Boudet that the latter expressed the hypothesis that the local vibrations are diffused through the whole cranial walls, putting in their turn the brain in vibration, and that the results obtained might, indeed, be due to those mechanical vibrations transmitted to the encephalon.

It is not doubtful, moreover, that besides the

pointed rod, the discs and the brush employed by M. Mortimer Granville, may not act in the same manner. He constructed a sort of headpiece, with divided sides, and by the aid of a very simple contrivance these sides of it exactly fit the head of the subject for experiment. The headpiece is surmounted by a flat surface on which is placed a small special motor driven by a simple battery. The entire apparatus is easy to manage, very portable, and its machinery can run, so to speak, without interruption, without fear of derangement. The little motor gives about 6,000 turns a minute, all very regular, producing a continuous vibration which is transmitted to the entire cranium by the sides of the headpieces. The entire head vibrates as a whole, as one can easily assure one's self by placing the hands on one mastoid process. The apparatus in action produces a continuous sound, sort of soft buzzing, which is not perhaps immaterial to note on account of the pathogenesis of the results obtained. One can at will increase or diminish both the number and the amplitude of the vibrations by a very simple regulating mechanism.

The apparatus placed on the head of a *healthy* subject is perfectly well supported and its action does not produce the slightest inconvenience. At the end of seven or eight minutes one has a sensation of numbness which invades the entire body and almost invariably induces sleep. In fact the experiment has shown that a séance of 10 minutes made about six o'clock in the evening would produce a calm sleep, the corresponding night. Eight or ten séances overcome insomnia where this is not due to any organic affection of the cerebrum.

In three cases the vibration proved very efficacious, as Boudet had already remarked, to abort an attack of migraine.

Three persons attacked by neurasthenia have been treated by this method, two were cured, the third interrupted the treatment at a time when she was already improved but not cured.

Vibration acts by dispelling at first the cephalic symptoms, especially the vertigo and the painful band, so special to this affection. What seems to show distinctly that the vibrations act particularly upon the encephalon is, that in a case in which the spinal phenomena were predominant, the weakness of the lower extremities, the relative sexual impotence disappeared without the recourse to