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PART I.
ORIGINAL COMMUNICATIONS.

ART. I.—*On a peculiar Affection of the Nerves of the Teeth.*
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THE disease I am about to describe, though very singular and remarkable, has not been noticed by practical writers. A few preliminary remarks on the functions of the dental nerves appear necessary, in order to enable us to form a more exact idea of its nature.

The teeth are immoveably fixed in the jaws, and consequently require no nerves of motion so far as they themselves are concerned; they are, on the other hand, abundantly supplied with nerves derived from the fifth pair, a nerve of sensation, and their nervous apparatus is developed and expanded within their substance in a manner which shows that nature has bestowed a greater degree of care on this than on any portion of the nerves destined to perform the office of touch. In this re-

spect they, to a certain extent, approach the perfection of the nervous apparatus of the organs of sense properly so called. In truth no part of the mechanism of the human body seems more admirable than that which thus associates together in function a soft nervous pulp and a solid osseous substance, and associated together they assuredly are, for the teeth, though encrusted with a coat of enamel as hard as steel, are very delicate organs of touch; the most minute bodies, when hard, may be distinctly felt if placed between their edges; and matters of more yielding texture, as a leaf of paper or a rose leaf, can be distinguished in the same position. The delicacy of touch enjoyed by the teeth has not attracted due notice, nor have its uses been sufficiently dwelt on, for to this sense are owing the ease and precision with which, as instruments, they perform their proper office of cutting, tearing, and grinding the food. It is from the feelings imparted to their edges that we derive instant knowledge of the situation, and many of the physical properties of the morsel, such as its hardness, consistence, shape, size, &c., in consequence of which it is either at once submitted to the action of the teeth, or is removed to be placed in another part of the mouth, and in a more convenient position, where teeth of a different shape and form may be brought to bear on it. Without this exquisite sense of feeling one row of teeth could not act in concert with the other, the incisors and molars in the under could not adapt their cutting and grinding surfaces to those in the upper jaw, nor could certain information be conveyed to the muscles of the lower jaw, for the purpose of commanding the consecutive motions they are called on to perform. In fact the teeth are not merely cutting instruments; but are endowed, as it were, with intelligence; they are, it is true, assisted in ascertaining the size, position, hardness, and other physical qualities of the morsel by the tongue and cheeks, but they perform besides a peculiar function, that of feeling the intimate texture of what is submitted to their immediate operations, thereby warning us instantaneously when the morsel contains anything detrimental

to their own substance; without this sense of touch how soon would our teeth be chipped away and worn by minute but hard matters, as grains of sand, which no care can entirely exclude from our food, but which the teeth detect at once when in contact with their edges, and which they at once refuse to act on. In truth the teeth may, in this point of view, be considered as a sort of fingers fixed within the mouth, destined to feel, examine, and adjust the morsel preparatory to placing it in the position most favourable to its mastication.

It is very strange that no example of paralysis of the dental nerves has as yet been observed. This subject has engaged my attention for several years, and I have been in the habit of inquiring from all my paralytic patients whether the sensibility of the teeth was lessened, but in no one instance have I been able to detect any thing approaching to loss of sensation in these organs, an immunity difficult to account for, and I believe unexampled, for I am not aware of any other nerve, either of sense or of motion, which is not occasionally involved in the progress of paralytic affections; nay, I have more than once been obliged to direct the removal of teeth in hemiplegic persons in consequence of toothach on the paralytic side. This immunity from paralysis, corroborated by the extensive experience of my friend Mr. M'Clean, seems the more surprising when we recollect how subject the dental nerves are to the opposite affection, or a morbidly increased and exalted state of sensibility, constituting the various forms of toothach.

Some physiologists have been inclined to suppose that the temperature of bodies is judged of by other nerves than those which are the instruments of the sense of touch; but it appears that if other arguments against this hypothesis are wanting, the instance of the teeth alone would be sufficient, for here most undoubtedly the sense of touch and the discrimination of temperatures are both functions of one and the same nerve, for the teeth possess but one.

The disease, to which I would now direct attention, consists

in an insuperable desire on the part of the patient to grind his teeth. This desire originates in a disagreeable, uneasy sensation in the teeth themselves, and is for the moment alleviated by forcibly grinding them together, but immediately returns when the patient ceases to perform this action, which is therefore continued, when the disease is confirmed, during the entire day. When asleep the patients no longer grind their teeth, the grinding being in all cases the result of voluntary motion. I have now become acquainted with the cases of four persons so affected, and it is very remarkable that they were all of a confirmed gouty habit. The first person in whom I observed it was my late excellent and esteemed friend the Countess of Egmont, in whom this habit had become so confirmed that she was impelled to indulge in it continually, for the moment she desisted, the uneasy sensation in the teeth became insupportable, and consequently she was obliged to give up all society for several years before her death. The grinding was in her case strong and forcible, and having been so long continued, at last nearly wore down her teeth to the very sockets. I consulted several of the most eminent surgeons in London on her disease, among the rest Mr. Abernethy, but none were able to suggest any means for its alleviation. She was so thoroughly convinced that some permanent cause of irritation existed in the teeth themselves, that at different times she had several of them drawn in hopes of procuring relief, but they were found to be perfectly sound.

I was lately consulted by the Rev. Mr. B., likewise of a gouty habit, and who is driven from general society by precisely the same affection. In him the molar teeth are worn quite flat and smooth, and the incisors and canine teeth have undergone a remarkable change, particularly the former, which being constantly *whetted* by each other, have acquired chisel-shaped edges, and are so sharp that when he inadvertently passes his tongue over them, they make an incised wound, like that inflicted by a sharp knife. This gentleman's teeth have

the enamel all worn off the crowns, and consequently their surfaces present a section of the internal or osseous portion of the tooth; and it is remarkable that in this as well as in the other cases, the internal or nervous cavity of the tooth is never exposed, but appears to be filled up with bony matter, in proportion as the process of grinding wears away the crown, just as has been observed in the case of old men, such as sailors, who have been in the habit for many years of chewing sea-biscuit. The same phenomenon has been likewise observed in the teeth of skulls supposed to have been Roman, from which it has been inferred that they had generally subsisted on very hard food.

The third case was that of a young clergyman in the south of Ireland, likewise of a gouty habit, and who was afflicted with *tic douloureux* of several branches of the fifth pair, and, among the rest, of the dental nerves of the left side. In him the teeth on the left side only were ground down, and the disease ceased after a continuance of two years.

The third case I have not seen, but the following particulars have been furnished by my friend Dr. Battersby.

“Henry W., County Meath, aged 60, has suffered from attacks of gout for the last thirty years, which are now so tedious and severe as to confine him to his bed for at least five months annually; about three years ago he was observed gradually to get a habit of grinding his teeth, which he now does constantly while awake, and so loudly as to be heard in the next room; he is not conscious of it unless when spoken to, I believe; and his teeth are quite ground down. Two years ago he had an attack of what he called gout in his teeth, and wanted to have them all pulled out.”

Although I have as yet been unable to discover any mode of alleviating the sufferings of patients afflicted with this hitherto undescribed disease, I have thought it right to submit the preceding short account of its chief symptoms to the consideration of the profession, in the hope that others may be induced to publish the results of some successful method of treatment.