

but because the strange or uncommon phenomenon may throw a flood of light upon other related facts. You yourselves will miss the value of your curious fact unless you seek to discover its relation to other facts which may be of common occurrence and yet not fully understood.

Now, the observation of such a case of partial or local epilepsy, of how the various groups of muscles are, one after another, thrown into convulsion, has a value far greater than merely to record a curious fact.

In the first place, it throws light upon the nature of other and severer forms of epilepsy. When you witness an ordinary general epileptic convulsion, the general tumult is so great that it becomes quite impossible to unravel the tangled skein of symptoms, here are tonic and clonic convulsive movements, all the muscles of the body seem involved, we can tell nothing of the sensory conditions, for the patient becomes totally unconscious, in short, motion, sensation and intelligence are so profoundly involved that one cannot, by separating the symptoms, come at any fair explanation of the nature of the phenomenon. But in a case of limited epilepsy we see, in miniature, the process going on, the patient being conscious can give an account of the sensory condition, we can watch the character and progress of the convulsive movements and we see this fact first of all, that the motor disturbance is not set up by an effort of the will, but rather in spite of it. Here, to begin with, is a demonstration of the fact that motion may be set up independently of the mental control, a fact which bears out the theory of separate functions for separate parts of the brain.

Our patient with limited epilepsy, very commonly, but not always, has an aura, a sensory disturbance just before the convulsive movement, and usually felt by her as being in or near the member involved in the convulsion. If there be sensory as well as motor centres, then we should expect, from the common necessities of use, that the respective centres for the same part should be in habitual close connection. For instance, it is essential that the sensations affecting the right hand and arm should very readily bring about motion of the same parts, otherwise the sensations would fail frequently to protect the arm from injury or enable it to perform work required of it. This aura preceding the cortical convulsion, tends

to prove the existence of precisely this arrangement.

One can imagine that the sensory centre for the arm being diseased and carrying on its functions irregularly, should send to the motor centre for the same arm a rush of orders all at once, setting the motor centre into confused activity and thus setting up a convulsion limited to the arm.

That some cases of partial epilepsy are thus due to disorders, not so much of the motor centres in the first place, as of the sensory centres, seems probable from such facts as these. We know that in some cases, some local irritant at a distance from the brain, by sending in continual irritating impulses, can and does cause epilepsy. The proof is found in the cessation of the epileptic seizures upon the removal of the cause. Here let me again give you a practical point. You will frequently be warned to look out for these sources of reflex irritation. Naturally you will look for some spot distinctly painful, some irritation of which your patient *complains*, but if you stop here you will rarely find the point of reflex irritation. You will constantly miss your opportunities. The fact is, that the irritant does not usually cause a distinct pain, a *conscious* sensation, but that from some point a series of slight but steady irritant impulses are being constantly sent in which ultimately wears out the sensory centre.

Did you ever undertake to bring up a fairly good but active boy? Well, the boy may not be painfully bad, but he can wear you out. So, for instance, the process of dentition does not cause any very definite pain, but is a frequent cause of convulsions.

Another fact which goes to prove the sensory origin of some cases of cortical epilepsy, is to be found, in a fact occasionally noted that the patient can, at times, block off a seizure by a strong effort of the will. I have, for instance, a patient who usually has her attacks at night, when she is wakened by the aura, she groans. If, now, her husband wakens quickly and gives her a vigorous shaking, she finds that the convulsive movements do not come on; if he is too slow, then the convulsion completes its course. Such a fact seems to show that to the same motor centre, impulses come from different directions, those from the sensory centre tending to start the motor centre into confused activity, those from the psychic or