

States, after the termination of the war, that he completely recovered from it. He never had either syphilis or rheumatism; never drank to excess; worked at his trade (stone-mason) until eighteen months ago, until he was no longer able on account of gradually-increasing general weakness and the stiffness of the muscles of his hands. In 1863 he received a severe scalp wound from a sabre, which healed in a short time. The family history is unimportant.

Patient is tall, emaciated and anæmic, with an anxious and careworn expression. About once a month the muscles of his fingers, hands and arms become the seat of tonic contractions, which generally last from ten to twelve days. The thumbs become adducted and opposed, while the fingers are adducted and semi-flexed. The contractions come at times suddenly, but usually are slow in making their appearance, and gradually increase in severity day by day up to the tenth or twelfth day, when they suddenly begin to decline, the parts becoming normal in about twenty-four hours. When the spasms are what he calls severe, the adductors of the upper arms become involved, bringing the arms crossed in front of the body, the forearms being usually semi-flexed. For some hours before, and during the whole time that the tetany is present, he has a disagreeable feeling of numbness in his fingers. The dorsum of his hands swell and become very painful also during this period. The pain is especially severe when an attempt is made to move the contracted muscles. The muscles of the face are usually more or less contracted at the same time. He has a feeling as if the skin was too tightly drawn across his face. The facial muscles are also the seat of almost constant fibrillary twitchings. The muscles of the lower extremities are only occasionally the seat of spastic contractions; when they are, the feet and toes are in a state of planter flexion, the feet being turned inwards and the thighs adducted. During the existence of tetany he has diplopia.

The electrical reactions of the nerves and muscles affected are enormously increased. During the past week, while he was suffering from one of his usual attacks, contraction of the facial muscles was induced on the application of galvanism to the facial nerve by a strength of current not exceeding .25 of a milliampere (measured by Edelman's galvanometer), while at the present time, when his muscles are no longer rigid, the tetany having passed away, it takes 3 milliamperes to

produce a similar result. There is a corresponding difference in the reactions of the radial, ulnar and median nerves.

	<i>Normal Period</i>	<i>Tetany period.</i>
Facial....	3.0 milliamperes.	.25 milliamperes.
Radial....	5.00	1.00
Median....	4.25	.50
Ulnar....	3.50	.50

Since coming under observation, the two attacks which he has suffered from have not been attended by contraction of the muscles of the lower extremities. On this account their electrical reactions have not been ascertained. Five milliamperes is sufficient to produce tetanic contraction on the shutting of the kathode (K S Te) and on opening the anode (A O Te). There is no change in the normal formula, the K S Z > A O Z. The difference in the reactions of the nerves and muscles to the induced current during the tetany and after it has passed away is not marked. In fact the interossei require a much stronger current to produce their contraction during the tetany state than during the normal condition. This is plainly owing to the œdema of the hands during the attacks, the œdematous tissues greatly increasing the resistance. The muscles, although flabby, are in a fairly nourished condition. The patellar reflexes are greatly exaggerated during the period of tetany, while after it has passed away it is frequently impossible to produce any contraction of the quadriceps when the patellar tendons are struck. The triceps and biceps reflexes are exaggerated during the tetany period, and absent after the muscles have become normal. No ankle clonus at either period. There is nothing definite to be made out in regard to the superficial and organic reflexes.

The tongue is constantly in a raw-looking state. The appetite, however, is usually fair. He is seldom free from diarrhœa, the average number of stools in the twenty-four hours being usually about six; only very seldom is there one stool in the day. The diarrhœa always moderates when the tetany makes its appearance. The abdomen is constantly distended; stools are large, frothy, semi-fluid, and look like pea-soup. The urine is acid, but normal in quantity, specific gravity 1030; contains great excess of both urea and indican, but is free from albumen and sugar. At times he becomes deeply jaundiced. There is no further evidence, however, physical or subjective, of disease of the liver. The apex of the heart is in the normal posi-